

=> fil reg

FILE 'REGISTRY' ENTERED AT 16:23:59 ON 24 OCT 2006
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Property values tagged with IC are from the ZIC/VINITI data file
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STRUCTURE FILE UPDATES: 23 OCT 2006 HIGHEST RN 911100-17-9
DICTIONARY FILE UPDATES: 23 OCT 2006 HIGHEST RN 911100-17-9

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TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

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L64 ANSWER 1 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN
RN 155534-31-9 REGISTRY
ED Entered STN: 03 Jun 1994
CN Aluminum alloy, base, Al 97,Mg 1,Si 1,Mn 0.3,Cu 0.2,Cr 0.1 (9CI) (CA
INDEX NAME)
MF Al . Cr . Cu . Mg . Mn . Si
CI AYS
SR CA
LC STN Files: CA, CAPLUS

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 97 | 7429-90-5 |
| Mg | 1 | 7439-95-4 |
| Si | 1 | 7440-21-3 |
| Mn | 0.3 | 7439-96-5 |
| Cu | 0.2 | 7440-50-8 |
| Cr | 0.1 | 7440-47-3 |

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 121:115245

L64 ANSWER 2 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN
RN 94197-28-1 REGISTRY
ED Entered STN: 20 Feb 1985
CN Aluminum alloy, base, Al 98-99,Mg 0.35-0.6,Si 0.30-0.6,Fe 0.10-0.30,Zn
0-0.15,Cu 0-0.10,Mn 0-0.10,Ti 0-0.10,Cr 0-0.05 (AA 6060) (9CI) (CA INDEX
NAME)
OTHER NAMES:

jan delaval - 25 october 2006

CN 63S
 CN A-GS
 CN AA 6060
 CN AA 6060-T6
 CN AlMgSi
 CN AlMgSi0.5
 CN ASTM B221-6060
 CN DIN 3.3206
 CN EN AW 6060
 CN G50S
 CN ISO AlMgSi
 CN SIS 4103
 CN SS 4103
 CN UNI 3569
 CN UNS A96060
 MF Al . Cr . Cu . Fe . Mg . Mn . Si . Ti . Zn
 CI AYS
 LC STN Files: AGRICOLA, CA, CAPLUS, PROMT, TOXCENTER, USPATFULL

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 98 - 99 | 7429-90-5 |
| Mg | 0.35 - 0.6 | 7439-95-4 |
| Si | 0.30 - 0.6 | 7440-21-3 |
| Fe | 0.10 - 0.30 | 7439-89-6 |
| Zn | 0 - 0.15 | 7440-66-6 |
| Cu | 0 - 0.10 | 7440-50-8 |
| Mn | 0 - 0.10 | 7439-96-5 |
| Ti | 0 - 0.10 | 7440-32-6 |
| Cr | 0 - 0.05 | 7440-47-3 |

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

228 REFERENCES IN FILE CA (1907 TO DATE)
 229 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 145:361250
 REFERENCE 2: 145:275774
 REFERENCE 3: 145:275690
 REFERENCE 4: 145:253335
 REFERENCE 5: 145:253303
 REFERENCE 6: 145:253261
 REFERENCE 7: 145:233783
 REFERENCE 8: 145:107816
 REFERENCE 9: 145:49423
 REFERENCE 10: 145:31670

L64 ANSWER 3 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN
 RN. 72939-77-6 REGISTRY

ED Entered STN: 16 Nov 1984
CN Aluminum alloy, base, (AA 6000) (9CI) (CA INDEX NAME)
OTHER NAMES:
CN AA6000
CN JIS 6000
MF Unspecified
CI AYS, MAN
LC STN Files: CA, CAPLUS, PROMT, USPAT2, USPATFULL

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

76 REFERENCES IN FILE CA (1907 TO DATE)
77 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 145:318884
REFERENCE 2: 145:296996
REFERENCE 3: 145:296968
REFERENCE 4: 145:233914
REFERENCE 5: 144:492863
REFERENCE 6: 144:132732
REFERENCE 7: 144:25752
REFERENCE 8: 143:444700
REFERENCE 9: 143:370924
REFERENCE 10: 143:310077

L64 ANSWER 4 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN
RN ~~37268-38-5~~ REGISTRY
ED Entered STN: 16 Nov 1984
CN Aluminum alloy, base, Al 99.45-100, Fe 0-0.55, Si 0-0.55, Cu 0-0.05, Mg
0-0.05, Mn 0-0.05, Zn 0-0.05, Ti 0-0.03 (AA 1145) (9CI) (CA INDEX NAME)
OTHER NAMES:
CN A91145
CN AA 1145
CN AD 1
CN AD 1M
CN AD1N
CN Al-AD-1
CN Al99.45
CN Alloy 1145
CN AMS 4011
CN ASTM B373-1145
CN ASTM B479-1145
CN UNS A91145
MF Al . Cu . Fe . Mg . Mn . Si . Ti . Zn
CI AYS
LC STN Files: CA, CAPLUS, CHEMLIST, IFICDB, IFIPAT, IFIUDB, MSDS-OHS,
TOXCENTER, USPAT2, USPATFULL

Component Component Component

| | Percent | Registry Number |
|----|-------------|-----------------|
| Al | 99.45 - 100 | 7429-90-5 |
| Fe | 0 - 0.55 | 7439-89-6 |
| Si | 0 - 0.55 | 7440-21-3 |
| Cu | 0 - 0.05 | 7440-50-8 |
| Mg | 0 - 0.05 | 7439-95-4 |
| Mn | 0 - 0.05 | 7439-96-5 |
| Zn | 0 - 0.05 | 7440-66-6 |
| Ti | 0 - 0.03 | 7440-32-6 |

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

509 REFERENCES IN FILE CA (1907 TO DATE)
509 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 145:319047
REFERENCE 2: 145:257805
REFERENCE 3: 145:67228
REFERENCE 4: 145:65031
REFERENCE 5: 144:395977
REFERENCE 6: 144:377819
REFERENCE 7: 144:374330
REFERENCE 8: 144:374329
REFERENCE 9: 144:374328
REFERENCE 10: 144:354430

L64 ANSWER 5 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN

RN 12720-80-8 REGISTRY

ED Entered STN: 16 Nov 1984

CN Aluminum alloy, base, Al 93-96, Mg 3.5-4.5, Mn 0.20-0.7, Fe 0-0.50, Si 0-0.40, Cr 0.05-0.25, Zn 0-0.25, Ti 0-0.15, Cu 0-0.10 (AA 5086) (9CI) (CA INDEX NAME)

OTHER NAMES:

CN A-G4MC
CN A5086-H18
CN AA 5086
CN AA 5086-H36
CN AA 5086-H38
CN Al4Mg
CN AlMg4
CN AlMg4Mn
CN ASME SB209-5086
CN ASTM B209-5086
CN ASTM B210-5086
CN ASTM B221-5086
CN ASTM B241-5086
CN ASTM B313-5086
CN ASTM B345-5086
CN ASTM B361-5086

CN ASTM B547-5086
 CN ASTM B548-5086
 CN DIN 3.3545
 CN E54S
 CN GM 40
 CN Hindal 5086
 CN JIS 5086
 CN L-3322
 CN Nautal
 CN P-AG 4.4
 CN PA 44
 CN Peraluman 410
 CN SB209-5086
 CN SB221-5086
 CN SB241-5086
 CN U-5086
 CN UNI 5452
 CN UNS A95086
 DR 475737-29-2, 12604-88-5, 54309-77-2, 65682-78-2, 71910-97-9
 MF Al . Cr . Cu . Fe . Mg . Mn . Si . Ti . Zn
 CI AYS
 LC STN Files: CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, PROMT, TOXCENTER, USPAT2,
 USPATFULL

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 93 - 96 | 7429-90-5 |
| Mg | 3.5 - 4.5 | 7439-95-4 |
| Mn | 0.20 - 0.7 | 7439-96-5 |
| Fe | 0 - 0.50 | 7439-89-6 |
| Si | 0 - 0.40 | 7440-21-3 |
| Cr | 0.05 - 0.25 | 7440-47-3 |
| Zn | 0 - 0.25 | 7440-66-6 |
| Ti | 0 - 0.15 | 7440-32-6 |
| Cu | 0 - 0.10 | 7440-50-8 |

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

346 REFERENCES IN FILE CA (1907 TO DATE)
 346 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 145:340027
 REFERENCE 2: 145:67354
 REFERENCE 3: 145:67273
 REFERENCE 4: 144:454194
 REFERENCE 5: 144:437895
 REFERENCE 6: 144:415519
 REFERENCE 7: 144:316114
 REFERENCE 8: 144:204412
 REFERENCE 9: 143:408914

REFERENCE 10: 143:334586

L64 ANSWER 6 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN

RN 12616-83-0 REGISTRY

ED Entered STN: 16 Nov 1984

CN Aluminum alloy, base, Al 96-98, Mg 2.2-2.8, Fe 0-0.40, Cr 0.15-0.35, Si
0-0.25, Cu 0-0.10, Mn 0-0.10, Zn 0-0.10 (AA 5052) (9CI) (CA INDEX NAME)

OTHER NAMES:

CN 5052N
CN 5052O
CN 5052W
CN 52S
CN 57S
CN A 5052O
CN A-G2.5C
CN A2P1
CN A5052
CN A5052-H32
CN A5052-H34
CN A5052H
CN A5052P
CN A5052P-H34
CN A5052S
CN AA 2052
CN AA 5052
CN AA 52S
CN Al2.5Mg
CN AlMg2.5
CN AlMg2.5Cr
CN AlMg2Cr
CN AMg
CN AMgAP
CN AMS 4004
CN AMS 4015
CN AMS 4016
CN AMS 4017
CN AMS 4175
CN ASME SB209-5052
CN ASTM B209-5052
CN ASTM B210-5052
CN ASTM B211-5052
CN ASTM B221-5052
CN ASTM B234-5052
CN ASTM B241-5052
CN ASTM B313-5052
CN ASTM B316-5052
CN ASTM B404-5052
CN ASTM B483-5052
CN ASTM B547-5052
CN ASTM B548-5052
CN DIN 3.3524
CN GR 20
CN Hindal 5052
CN Indal 57S
CN JIS 5052
CN JIS A2P1
CN JIS A5052
CN JIS A5052P

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for

DISPLAY
 DR 12615-47-3, 12632-90-5, 12661-54-0, 12662-90-7, 11106-87-9, 54261-61-9,
 59231-51-5, 119631-15-1, 37188-16-2, 37326-55-9, 37374-47-3, 67701-56-8,
 179560-06-6
 MF Al . Cr . Cu . Fe . Mg . Mn . Si . Zn
 CI AYS
 LC STN Files: BIOSIS, CA, CAPLUS, CIN, IFICDB, IFIPAT, IFIUDB, TOXCENTER,
 USPAT2, USPATFULL

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 97 - 98 | 7429-90-5 |
| Mg | 2.2 - 2.8 | 7439-95-4 |
| Fe | 0 - 0.40 | 7439-89-6 |
| Cr | 0.15 - 0.35 | 7440-47-3 |
| Si | 0 - 0.25 | 7440-21-3 |
| Cu | 0 - 0.10 | 7440-50-8 |
| Mn | 0 - 0.10 | 7439-96-5 |
| Zn | 0 - 0.10 | 7440-66-6 |

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2439 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 2440 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 145:361221
 REFERENCE 2: 145:361191
 REFERENCE 3: 145:361128
 REFERENCE 4: 145:358195
 REFERENCE 5: 145:358037
 REFERENCE 6: 145:340204
 REFERENCE 7: 145:340002
 REFERENCE 8: 145:339982
 REFERENCE 9: 145:339855
 REFERENCE 10: 145:337515

L64 ANSWER 7 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 12616-75-0 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Aluminum alloy, base, Al 96-99, Mg 0.8-1.2, Si 0.40-0.8, Fe 0-0.7, Cu
 0.15-0.40, Cr 0.04-0.35, Zn 0-0.25, Mn 0-0.15, Ti 0-0.15 (AA 6061) (9CI) (CA
 INDEX NAME)
 OTHER NAMES:
 CN 6061 AJ
 CN 61S
 CN 61S-T6
 CN 65S
 CN A 6061S-T5

CN A-SGUC
 CN A2B4
 CN A6061
 CN A6061P
 CN A6061P-T651
 CN A6061S-T6
 CN AA 6061
 CN AA 6061-T651
 CN AA6061-F
 CN AD 33
 CN AD 33M
 CN AD 33T1
 CN AD33T
 CN Al 6061
 CN Al 6061-T6
 CN Alcoa 6061
 CN Alloy 1330
 CN AlMg1SiCu
 CN AlMgSiCu
 CN AMC600xb
 CN AMS 4009
 CN AMS 4025
 CN AMS 4026
 CN AMS 4080
 CN ASME SB209-6061
 CN ASTM B209-6061
 CN ASTM B210-6061
 CN ASTM B211-6061
 CN ASTM B221-6061
 CN ASTM B234-6061
 CN ASTM B241-6061
 CN ASTM B247-6061
 CN DIN 3.3211
 CN DIN 3.3214
 CN EN AW 6061
 CN GS11N
 CN HE 20
 CN Indal 65S
 CN ISO AlMg1SiCu
 CN L 3420
 CN L 69
 CN PA 45
 CN SB209-6061
 CN SB210-6061

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for
DISPLAY

DR 872342-14-8, 11145-17-8, 120946-50-1, 51835-84-8, 65892-55-9, 37269-78-6,
81161-91-3, 39366-72-8, 39366-73-9

MF Al . Cr . Cu . Fe . Mg . Mn . Si . Ti . Zn

CI AYS

LC STN Files: BIOSIS, CA, CAPLUS, CIN, IFICDB, IFIPAT, IFIUDB, PIRA, PROMT,
TOXCENTER, USPAT2, USPATFULL

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 96 - 99 | 7429-90-5 |
| Mg | 0.8 - 1.2 | 7439-95-4 |
| Si | 0.40 - 0.8 | 7440-21-3 |
| Fe | 0 - 0.7 | 7439-89-6 |

| | | | |
|----|--------|------|-----------|
| Cu | 0.15 - | 0.40 | 7440-50-8 |
| Cr | 0.04 - | 0.35 | 7440-47-3 |
| Zn | 0 - | 0.25 | 7440-66-6 |
| Mn | 0 - | 0.15 | 7439-96-5 |
| Ti | 0 - | 0.15 | 7440-32-6 |

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

6091 REFERENCES IN FILE CA (1907 TO DATE)
 4 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 6097 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 145:361218
 REFERENCE 2: 145:361199
 REFERENCE 3: 145:361146
 REFERENCE 4: 145:361133
 REFERENCE 5: 145:360974
 REFERENCE 6: 145:360966
 REFERENCE 7: 145:346636
 REFERENCE 8: 145:340039
 REFERENCE 9: 145:340025
 REFERENCE 10: 145:339991

L64 ANSWER 8 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 11146-15-9 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Aluminum alloy, base, Al 97-98, Mn 1.0-1.5, Fe 0-0.7, Si 0-0.6, Cu
 0.05-0.20, Zn 0-0.10 (AA 3003) (9CI) (CA INDEX NAME)

OTHER NAMES:

CN 3003 AG
 CN A 3003
 CN A 3003S
 CN A-M1
 CN A3003P-O
 CN AA 3003
 CN Alcoa 3003
 CN Alloy 1400
 CN Alloy 3003 H14
 CN AlMn1
 CN AlMnCu
 CN Aluman 103
 CN AM-1
 CN AMc
 CN AMS 4006
 CN AMTs
 CN AMtsAM
 CN AMtsAP
 CN AMtsM
 CN AMtsN2
 CN AMtsP

CN ASME SB209-3003
 CN ASTM B209-3003
 CN ASTM B210-3003
 CN ASTM B211-3003
 CN ASTM B234-3003
 CN ASTM B247-3003
 CN ASTM B313-3003
 CN ASTM B316-3003
 CN ASTM B345-3003
 CN ASTM B404-3003
 CN ASTM B483-3003
 CN ASTM B491-3003
 CN ASTM B547-3003
 CN AWS E3003
 CN BA 3003
 CN CSN 42 4432
 CN D3S
 CN DIN 3.0517
 CN E3003
 CN ISO AlMn1Cu
 CN JIS 3003
 CN JIS 3003-H14
 CN JIS A3003
 CN K383
 CN L-3810
 CN LF21
 CN M11
 CN MC10

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for
DISPLAY

DR 12719-48-1, 12719-54-9, 171757-47-4, 55893-23-7, 62656-03-5, 94504-84-4,
51258-27-6, 61115-08-0, 37374-46-2, 72067-08-4, 82641-38-1, 83651-79-0,
39360-69-5, 157451-80-4, 181428-96-6, 245366-61-4

MF Al . Cu . Fe . Mn . Si . Zn

CI AYS

LC STN Files: AGRICOLA, CA, CAPLUS, IFICDB, IFIPAT, IFIUDB, PROMT,
TOXCENTER, USPAT2, USPATFULL

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 97 - 99 | 7429-90-5 |
| Mn | 1.0 - 1.5 | 7439-96-5 |
| Fe | 0 - 0.7 | 7439-89-6 |
| Si | 0 - 0.6 | 7440-21-3 |
| Cu | 0.05 - 0.20 | 7440-50-8 |
| Zn | 0 - 0.10 | 7440-66-6 |

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2455 REFERENCES IN FILE CA (1907 TO DATE)

2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

2456 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 145:361176

REFERENCE 2: 145:347161

REFERENCE 3: 145:324924

REFERENCE 4: 145:319028
REFERENCE 5: 145:318036
REFERENCE 6: 145:275780
REFERENCE 7: 145:275773
REFERENCE 8: 145:275762
REFERENCE 9: 145:257805
REFERENCE 10: 145:253265

=> fil hcaplus

FILE 'HCAPLUS' ENTERED AT 16:24:10 ON 24 OCT 2006
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FILE COVERS 1907 - 24 Oct 2006 VOL 145 ISS 18
FILE LAST UPDATED: 23 Oct 2006 (20061023/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

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L63 ANSWER 1 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2005:453711 HCAPLUS

DN 142:484860

TI **Battery** including aluminum components

IN **Berkowitz, Fred J.; Issaev, Nikolai N.; Janik, Jaroslav; Pozin, Michael**

PA USA

SO U.S. Pat. Appl. Publ., 14 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|--|------|----------|-----------------|--------------|
| | ----- | ---- | ---- | ----- | ----- |
| PI | US 2005112468 | A1 | 20050526 | US 2003-719056 | 20031124 <-- |
| | WO 2005053066 | A1 | 20050609 | WO 2004-US38464 | 20041117 <-- |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, | | | | |

jan delaval - 25 october 2006

CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
 LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
 NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
 TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO,
 SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
 NE, SN, TD, TG
 EP 1687864 A1 20060809 EP 2004-811248 20041117 <--
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS
 PRAI US 2003-719056 A1 20031124 <--
 WO 2004-US38464 W 20041117
 AB A **primary** lithium **battery** can include a
current collector that includes aluminum, a pos. lead
 that includes aluminum, or both. The aluminum **battery**
 components can have high mech. strength and low elec. resistance.
 IT 11146-15-9, AA 3003 12616-75-0, AA 6061
 12616-83-0, AA 5052 37268-38-5, AA 1145
 72939-77-6
 RL: DEV (Device component use); USES (Uses)
 (battery including aluminum components)
 RN 11146-15-9 HCAPLUS
 CN Aluminum alloy, base, Al 97-98, Mn 1.0-1.5, Fe 0-0.7, Si 0-0.6, Cu
 0.05-0.20, Zn 0-0.10 (AA 3003) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------|----------------------|------------------------------|
| =====+===== | =====+===== | ===== |
| Al | 97 - 99 | 7429-90-5 |
| Mn | 1.0 - 1.5 | 7439-96-5 |
| Fe | 0 - 0.7 | 7439-89-6 |
| Si | 0 - 0.6 | 7440-21-3 |
| Cu | 0.05 - 0.20 | 7440-50-8 |
| Zn | 0 - 0.10 | 7440-66-6 |

RN 12616-75-0 HCAPLUS
 CN Aluminum alloy, base, Al 96-99, Mg 0.8-1.2, Si 0.40-0.8, Fe 0-0.7, Cu
 0.15-0.40, Cr 0.04-0.35, Zn 0-0.25, Mn 0-0.15, Ti 0-0.15 (AA 6061) (9CI) (CA
 INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------|----------------------|------------------------------|
| =====+===== | =====+===== | ===== |
| Al | 96 - 99 | 7429-90-5 |
| Mg | 0.8 - 1.2 | 7439-95-4 |
| Si | 0.40 - 0.8 | 7440-21-3 |
| Fe | 0 - 0.7 | 7439-89-6 |
| Cu | 0.15 - 0.40 | 7440-50-8 |
| Cr | 0.04 - 0.35 | 7440-47-3 |
| Zn | 0 - 0.25 | 7440-66-6 |
| Mn | 0 - 0.15 | 7439-96-5 |
| Ti | 0 - 0.15 | 7440-32-6 |

RN 12616-83-0 HCAPLUS
 CN Aluminum alloy, base, Al 96-98, Mg 2.2-2.8, Fe 0-0.40, Cr 0.15-0.35, Si
 0-0.25, Cu 0-0.10, Mn 0-0.10, Zn 0-0.10 (AA 5052) (9CI) (CA INDEX NAME)

| Component | Component Percent | | Component Registry Number |
|-----------|-------------------|--------|---------------------------|
| Al | 97 | - 98 | 7429-90-5 |
| Mg | 2.2 | - 2.8 | 7439-95-4 |
| Fe | 0 | - 0.40 | 7439-89-6 |
| Cr | 0.15 | - 0.35 | 7440-47-3 |
| Si | 0 | - 0.25 | 7440-21-3 |
| Cu | 0 | - 0.10 | 7440-50-8 |
| Mn | 0 | - 0.10 | 7439-96-5 |
| Zn | 0 | - 0.10 | 7440-66-6 |

RN 37268-38-5 HCAPLUS

CN Aluminum alloy, base, Al 99.45-100, Fe 0-0.55, Si 0-0.55, Cu 0-0.05, Mg 0-0.05, Mn 0-0.05, Zn 0-0.05, Ti 0-0.03 (AA 1145) (9CI) (CA INDEX NAME)

| Component | Component Percent | | Component Registry Number |
|-----------|-------------------|--------|---------------------------|
| Al | 99.45 | - 100 | 7429-90-5 |
| Fe | 0 | - 0.55 | 7439-89-6 |
| Si | 0 | - 0.55 | 7440-21-3 |
| Cu | 0 | - 0.05 | 7440-50-8 |
| Mg | 0 | - 0.05 | 7439-95-4 |
| Mn | 0 | - 0.05 | 7439-96-5 |
| Zn | 0 | - 0.05 | 7440-66-6 |
| Ti | 0 | - 0.03 | 7440-32-6 |

RN 72939-77-6 HCAPLUS

CN Aluminum alloy, base, (AA 6000) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L63 ANSWER 2 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2005:453710 HCAPLUS

DN 142:484859

TI **Battery** including aluminum componentsIN **Berkowitz, Fred J.; Issaev, Nikolai N.; Pozin, Michael**

PA USA

SO U.S. Pat. Appl. Publ., 14 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---|------|----------|-----------------|--------------|
| PI | US 2005112467 | A1 | 20050526 | US 2003-719025 | 20031124 <-- |
| | WO 2005053065 | A1 | 20050609 | WO 2004-US38840 | 20041119 <-- |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| | RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |

EP 1685610 A1 20060802 EP 2004-811543 20041119 <--
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS
 PRAI US 2003-719025 A1 20031124 <--
 WO 2004-US38840 W 20041119 <--
 AB A **primary** lithium **battery** can include a
current collector that includes aluminum, a cap that
 includes aluminum, or both. The aluminum **battery** components can
 have high mech. strength and low elec. resistance.
 IT 11146-15-9, AA 3003 12616-75-0, AA 6061
 12616-83-0, AA 5052 37268-38-5, AA 1145
 72939-77-6
 RL: DEV (Device component use); USES (Uses)
 (battery including aluminum components)
 RN 11146-15-9 HCAPLUS
 CN Aluminum alloy, base, Al 97-98, Mn 1.0-1.5, Fe 0-0.7, Si 0-0.6, Cu
 0.05-0.20, Zn 0-0.10 (AA 3003) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 97 - 99 | 7429-90-5 |
| Mn | 1.0 - 1.5 | 7439-96-5 |
| Fe | 0 - 0.7 | 7439-89-6 |
| Si | 0 - 0.6 | 7440-21-3 |
| Cu | 0.05 - 0.20 | 7440-50-8 |
| Zn | 0 - 0.10 | 7440-66-6 |

RN 12616-75-0 HCAPLUS
 CN Aluminum alloy, base, Al 96-99, Mg 0.8-1.2, Si 0.40-0.8, Fe 0-0.7, Cu
 0.15-0.40, Cr 0.04-0.35, Zn 0-0.25, Mn 0-0.15, Ti 0-0.15 (AA 6061) (9CI) (CA
 INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 96 - 99 | 7429-90-5 |
| Mg | 0.8 - 1.2 | 7439-95-4 |
| Si | 0.40 - 0.8 | 7440-21-3 |
| Fe | 0 - 0.7 | 7439-89-6 |
| Cu | 0.15 - 0.40 | 7440-50-8 |
| Cr | 0.04 - 0.35 | 7440-47-3 |
| Zn | 0 - 0.25 | 7440-66-6 |
| Mn | 0 - 0.15 | 7439-96-5 |
| Ti | 0 - 0.15 | 7440-32-6 |

RN 12616-83-0 HCAPLUS
 CN Aluminum alloy, base, Al 96-98, Mg 2.2-2.8, Fe 0-0.40, Cr 0.15-0.35, Si
 0-0.25, Cu 0-0.10, Mn 0-0.10, Zn 0-0.10 (AA 5052) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 97 - 98 | 7429-90-5 |
| Mg | 2.2 - 2.8 | 7439-95-4 |
| Fe | 0 - 0.40 | 7439-89-6 |
| Cr | 0.15 - 0.35 | 7440-47-3 |
| Si | 0 - 0.25 | 7440-21-3 |
| Cu | 0 - 0.10 | 7440-50-8 |
| Mn | 0 - 0.10 | 7439-96-5 |

Zn 0 - 0.10 7440-66-6

RN 37268-38-5 HCAPLUS

CN Aluminum alloy, base, Al 99.45-100, Fe 0-0.55, Si 0-0.55, Cu 0-0.05, Mg 0-0.05, Mn 0-0.05, Zn 0-0.05, Ti 0-0.03 (AA 1145) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 99.45 - 100 | 7429-90-5 |
| Fe | 0 - 0.55 | 7439-89-6 |
| Si | 0 - 0.55 | 7440-21-3 |
| Cu | 0 - 0.05 | 7440-50-8 |
| Mg | 0 - 0.05 | 7439-95-4 |
| Mn | 0 - 0.05 | 7439-96-5 |
| Zn | 0 - 0.05 | 7440-66-6 |
| Ti | 0 - 0.03 | 7440-32-6 |

RN 72939-77-6 HCAPLUS

CN Aluminum alloy, base, (AA 6000) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L63 ANSWER 3 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2005:450737 HCAPLUS

DN 142:484841

TI **Battery** including aluminum components

IN **Issaev, Nikolai N.; Pozin, Michael; Stevanovic, Maya**

PA USA

SO U.S. Pat. Appl. Publ., 14 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|--|------|----------|-----------------|--------------|
| PI | US 2005112274 | A1 | 20050526 | US 2003-719014 | 20031124 <-- |
| | WO 2005055347 | A2 | 20050616 | WO 2004-US37689 | 20041110 <-- |
| | WO 2005055347 | A3 | 20060511 | | |
| | W: | | | | |
| | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, US | | | | |
| | RW: | | | | |
| | BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| | EP 1687862 | A2 | 20060809 | EP 2004-820016 | 20041110 <-- |
| | R: | | | | |
| | AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR, IS, YU | | | | |

PRAI US 2003-719014 A1 20031124 <--

WO 2004-US37689 W 20041110

AB A **primary** lithium **battery** can include a **current collector** that includes aluminum, a cap that includes aluminum, or both. The aluminum **battery** components can have high mech. strength and low elec. resistance.

IT 12616-75-0, AA 6061 37268-38-5, AA 1145
 72939-77-6, AA6000
 RL: DEV (Device component use); USES (Uses)
 (battery including aluminum components)
 RN 12616-75-0 HCAPLUS
 CN Aluminum alloy, base, Al 96-99, Mg 0.8-1.2, Si 0.40-0.8, Fe 0-0.7, Cu
 0.15-0.40, Cr 0.04-0.35, Zn 0-0.25, Mn 0-0.15, Ti 0-0.15 (AA 6061) (9CI) (CA
 INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 96 - 99 | 7429-90-5 |
| Mg | 0.8 - 1.2 | 7439-95-4 |
| Si | 0.40 - 0.8 | 7440-21-3 |
| Fe | 0 - 0.7 | 7439-89-6 |
| Cu | 0.15 - 0.40 | 7440-50-8 |
| Cr | 0.04 - 0.35 | 7440-47-3 |
| Zn | 0 - 0.25 | 7440-66-6 |
| Mn | 0 - 0.15 | 7439-96-5 |
| Ti | 0 - 0.15 | 7440-32-6 |

RN 37268-38-5 HCAPLUS
 CN Aluminum alloy, base, Al 99.45-100, Fe 0-0.55, Si 0-0.55, Cu 0-0.05, Mg
 0-0.05, Mn 0-0.05, Zn 0-0.05, Ti 0-0.03 (AA 1145) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 99.45 - 100 | 7429-90-5 |
| Fe | 0 - 0.55 | 7439-89-6 |
| Si | 0 - 0.55 | 7440-21-3 |
| Cu | 0 - 0.05 | 7440-50-8 |
| Mg | 0 - 0.05 | 7439-95-4 |
| Mn | 0 - 0.05 | 7439-96-5 |
| Zn | 0 - 0.05 | 7440-66-6 |
| Ti | 0 - 0.03 | 7440-32-6 |

RN 72939-77-6 HCAPLUS
 CN Aluminum alloy, base, (AA 6000) (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

L63 ANSWER 4 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 2004:6876 HCAPLUS
 DN 140:97679
 TI Undesirable corrosion damage on aluminum alloys
 AU Zunkel, A.
 CS Berlin, Germany
 SO VDI-Berichte (2003), 1765 (Korrosionsschaeden in der Industrie),
 187-196
 CODEN: VDIBAP; ISSN: 0083-5560
 PB VDI Verlag GmbH
 DT Journal
 LA German
 AB Damage scenarios of AlMgS alloy EN AW-6060 tram **current**
collectors are studied. Pintercryst. corrosion was recognized as
 result of metallog. testings and Cu metal depositions has proven the
 corrosion generating element.
 IT 94197-28-1, EN AW-6060

RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)

(corrosion damage scenarios of AlMgS alloy EN AW-6060 tram

current collectors)

RN 94197-28-1 HCAPLUS

CN Aluminum alloy, base, Al 98-99, Mg 0.35-0.6, Si 0.30-0.6, Fe 0.10-0.30, Zn 0-0.15, Cu 0-0.10, Mn 0-0.10, Ti 0-0.10, Cr 0-0.05 (AA 6060) (9CI) (CA INDEX NAME)

| Component | Component Percent | | Component Registry Number |
|-----------|-------------------|--------|---------------------------|
| Al | 98 | - 99 | 7429-90-5 |
| Mg | 0.35 | - 0.6 | 7439-95-4 |
| Si | 0.30 | - 0.6 | 7440-21-3 |
| Fe | 0.10 | - 0.30 | 7439-89-6 |
| Zn | 0 | - 0.15 | 7440-66-6 |
| Cu | 0 | - 0.10 | 7440-50-8 |
| Mn | 0 | - 0.10 | 7439-96-5 |
| Ti | 0 | - 0.10 | 7440-32-6 |
| Cr | 0 | - 0.05 | 7440-47-3 |

RETABLE

| Referenced Author (RAU) | Year (RPY) | VOL (RVL) | PG (RPG) | Referenced Work (RWK) | Referenced File |
|----------------------------|---------------|--------------|-------------|--------------------------|--------------------|
| Anon | 1998 | | | Grundlagen und Werks | |
| Anon | 2001 | 1 | | INSITU - Werkstoffda | |
| Anon | 1995 | | | Korrosion und Korros | |
| Anon | 1984 | | | Richtlinie des Rates | |
| Korrosionsverhalten Met | 1996 | | | Vorlesungen uber Kor | |
| Lange, G | 2001 | | | Systematische Beurte | |

L63 ANSWER 5 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:511913 HCAPLUS

DN 139:55564

TI Nonaqueous electrolyte secondary and **primary batteries**

IN **Issaev, Nikolai N.; Pozin, Michael**

PA USA

SO U.S. Pat. Appl. Publ., 19 pp., Cont.-in-part of U.S. Ser. No. 22,289.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------|------|----------|-----------------|--------------|
| PI | US 2003124421 | A1 | 20030703 | US 2003-361945 | 20030210 <-- |
| | US 2003113622 | A1 | 20030619 | US 2001-22289 | 20011214 <-- |
| PRAI | US 2001-22289 | A2 | 20011214 | <-- | |

AB An electrochem. secondary cell includes a cathode, an anode, a cathode **current collector** including stainless steel, and an electrolyte containing a perchlorate salt and a second salt. The steel is selected from: a 200 series stainless steel, a 300 series stainless steel, a 400 series stainless steel, and a cold roll steel. The perchlorate salt comprises LiClO₄.

IT 37268-38-5, Aa 1145

RL: DEV (Device component use); USES (Uses)

(nonaq. electrolyte secondary and **primary batteries**

)

RN 37268-38-5 HCAPLUS

CN Aluminum alloy, base, Al 99.45-100, Fe 0-0.55, Si 0-0.55, Cu 0-0.05, Mg 0-0.05, Mn 0-0.05, Zn 0-0.05, Ti 0-0.03 (AA 1145) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 99.45 - 100 | 7429-90-5 |
| Fe | 0 - 0.55 | 7439-89-6 |
| Si | 0 - 0.55 | 7440-21-3 |
| Cu | 0 - 0.05 | 7440-50-8 |
| Mg | 0 - 0.05 | 7439-95-4 |
| Mn | 0 - 0.05 | 7439-96-5 |
| Zn | 0 - 0.05 | 7440-66-6 |
| Ti | 0 - 0.03 | 7440-32-6 |

IT 11146-15-9, Aa 3003

RL: TEM (Technical or engineered material use); USES (Uses)
 (nonaq. electrolyte secondary and **primary batteries**)

RN 11146-15-9 HCAPLUS

CN Aluminum alloy, base, Al 97-98, Mn 1.0-1.5, Fe 0-0.7, Si 0-0.6, Cu 0.05-0.20, Zn 0-0.10 (AA 3003) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 97 - 99 | 7429-90-5 |
| Mn | 1.0 - 1.5 | 7439-96-5 |
| Fe | 0 - 0.7 | 7439-89-6 |
| Si | 0 - 0.6 | 7440-21-3 |
| Cu | 0.05 - 0.20 | 7440-50-8 |
| Zn | 0 - 0.10 | 7440-66-6 |

L63 ANSWER 6 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:473078 HCAPLUS

DN 139:39164

TI Electrolyte additive for nonaqueous electrochemical cells for **batteries**

IN Blasi, Jane A.; Issaev, Nikolai N.; Pozin, Michael

PA USA

SO U.S. Pat. Appl. Publ., 13 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-----|--|------|----------|-----------------|--------------|
| PI | US 2003113622 | A1 | 20030619 | US 2001-22289 | 20011214 <-- |
| | WO 2003052845 | A2 | 20030626 | WO 2002-US39652 | 20021211 <-- |
| | WO 2003052845 | A3 | 20050303 | | |
| W: | AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW | | | | |
| RW: | GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, | | | | |

FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ,
 CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2002360562 A1 20030630 AU 2002-360562 20021211 <--
 EP 1527488 A2 20050504 EP 2002-795827 20021211 <--
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, FI, CY, TR, BG, CZ, EE, SK

CN 1630959 A 20050622 CN 2002-824988 20021211 <--
 JP 2005538498 T2 20051215 JP 2003-553641 20021211 <--
 BR 2002014896 A 20060530 BR 2002-14896 20021211 <--
 US 2003124421 A1 20030703 US 2003-361945 20030210 <--
 US 2005089760 A1 20050428 US 2004-990379 20041117 <--
 PRAI US 2001-22289 A1 20011214 <--
 WO 2002-US39652 W 20021211 <--

AB An electrochem. secondary cell is disclosed. The cell includes a cathode,
 an anode, a **current collector** including aluminum, and
 an electrolyte containing a perchlorate salt and a second salt. The
 electrolyte is essentially free of LiPF₆.

IT **11146-15-9**, Aa 3003 **37268-38-5**, Aa 1145
 RL: DEV (Device component use); USES (Uses)
 (electrolyte additive for nonaq. electrochem. cells for
batteries)

RN 11146-15-9 HCAPLUS
 CN Aluminum alloy, base, Al 97-98, Mn 1.0-1.5, Fe 0-0.7, Si 0-0.6, Cu
 0.05-0.20, Zn 0-0.10 (AA 3003) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------|----------------------|------------------------------|
| =====+===== | | |
| Al | 97 - 99 | 7429-90-5 |
| Mn | 1.0 - 1.5 | 7439-96-5 |
| Fe | 0 - 0.7 | 7439-89-6 |
| Si | 0 - 0.6 | 7440-21-3 |
| Cu | 0.05 - 0.20 | 7440-50-8 |
| Zn | 0 - 0.10 | 7440-66-6 |

RN 37268-38-5 HCAPLUS
 CN Aluminum alloy, base, Al 99.45-100, Fe 0-0.55, Si 0-0.55, Cu 0-0.05, Mg
 0-0.05, Mn 0-0.05, Zn 0-0.05, Ti 0-0.03 (AA 1145) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------|----------------------|------------------------------|
| =====+===== | | |
| Al | 99.45 - 100 | 7429-90-5 |
| Fe | 0 - 0.55 | 7439-89-6 |
| Si | 0 - 0.55 | 7440-21-3 |
| Cu | 0 - 0.05 | 7440-50-8 |
| Mg | 0 - 0.05 | 7439-95-4 |
| Mn | 0 - 0.05 | 7439-96-5 |
| Zn | 0 - 0.05 | 7440-66-6 |
| Ti | 0 - 0.03 | 7440-32-6 |

L63 ANSWER 7 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 2003:446089 HCAPLUS
 DN 139:298202
 TI Influence of alloying additives on the performance of commercial grade
 aluminum as galvanic anode in alkaline zincate solution for use in
primary alkaline batteries
 AU Paramasivam, M.; Jayachandran, M.; Venkatakrishna Iyer, S.
 CS Central Electrochemical Research Institute, Karaikudi, Tamilnadu, 630006,

India

SO Journal of Applied Electrochemistry (2003), 33(3-4), 303-309
CODEN: JAELEBJ; ISSN: 0021-891X

PB Kluwer Academic Publishers

DT Journal

LA English

AB The self-corrosion of different grades of com. aluminum such as 2S, 3S, 26S and 57S in 4 M NaOH containing 0.6 M ZnO has been determined by weight loss measurements. It is found that 26S and 57S aluminum exhibit negligible corrosion rates in the range 0.05-0.06 mg cm⁻² min⁻¹, which can be attributed to the formation of a zincate coating on the aluminum surface. The influence of zincating on the performance of binary and ternary alloys of 26S and 57S aluminum obtained by incorporating alloying elements such as zinc, indium, thallium, gallium and tin as galvanic anode in 4 M NaOH containing 0.6 M ZnO has been examined by studying self corrosion, steady state open circuit potential, galvanostatic polarization and anode efficiency. It is found that zincated ternary alloys of 26S and 57S aluminum containing zinc and indium can serve as good galvanic anodes in alkaline medium. AC impedance measurements and X-ray diffraction studies have been carried out to understand the nature of the film formed on the aluminum surface.

IT 12616-83-0, 57S
RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(self-corrosion of com. aluminum in NaOH containing ZnO)

RN 12616-83-0 HCAPLUS

CN Aluminum alloy, base, Al 96-98, Mg 2.2-2.8, Fe 0-0.40, Cr 0.15-0.35, Si 0-0.25, Cu 0-0.10, Mn 0-0.10, Zn 0-0.10 (AA 5052) (9CI) (CA INDEX NAME)

| Component | Component Percent | | Component Registry Number |
|-------------------------|-------------------|--------|---------------------------|
| =====+=====+=====+===== | | | |
| Al | 97 | - 98 | 7429-90-5 |
| Mg | 2.2 | - 2.8 | 7439-95-4 |
| Fe | 0 | - 0.40 | 7439-89-6 |
| Cr | 0.15 | - 0.35 | 7440-47-3 |
| Si | 0 | - 0.25 | 7440-21-3 |
| Cu | 0 | - 0.10 | 7440-50-8 |
| Mn | 0 | - 0.10 | 7439-96-5 |
| Zn | 0 | - 0.10 | 7440-66-6 |

RETABLE

| Referenced Author (RAU) | Year (RPY) | VOL (RVL) | PG (RPG) | Referenced Work (RWK) | Referenced File |
|-------------------------------------|---------------|--------------|-------------|--------------------------|--------------------|
| =====+=====+=====+=====+=====+===== | | | | | |
| Bharathi, S | 1989 | 5 | 33 | Bull Electrochem | HCAPLUS |
| Blockstie, L | 1963 | 110 | 267 | J Electrochem Soc | |
| Bohnstedt, W | 1980 | 5 | 245 | J Power Sources | |
| Despic, A | 1986 | 24 | 465 | Ind J Tech | HCAPLUS |
| Despic, A | 1979 | 7 | 15 | Power Sources | |
| Drazic, D | 1977 | 12 | 370 | Ext Abstr 28th Meeti | HCAPLUS |
| Farooqi, I | 1997 | | 1128 | Proceedings of the I | |
| Georgiev, Z | 1978 | 25 | 189 | Zh God Vissh Khim | |
| John Albert, I | 1989 | 19 | 547 | J Appl Electrochem | |
| Jovanovic, K | 1979 | | | US 4288500 | HCAPLUS |
| Kapali, V | 1969 | 4 | 305 | Br Corros J | HCAPLUS |
| Kordesch Karl, K | 1974 | | | US 3850693 | HCAPLUS |
| Krishnan, M | 1978 | 7 | 184 | Br Corros J | |
| MacArthen, D | 1985 | 85-2 | 23 | Ext Abstr 168th Fall | |
| Macdonald, D | 1988 | 44 | 652 | Corrosion | HCAPLUS |

| | | | | | |
|-----------------|------|------|-----|----------------------|---------|
| Macdonald, D | 1987 | 87-2 | 194 | Ext Abstr 172nd Fall | |
| Masayoshi, K | 1970 | 38 | 753 | J Electrochem Soc, o | |
| Paramasivam, M | 1994 | 29 | 207 | Br Corros J | HCAPLUS |
| Paramasivam, M | 1991 | 21 | 452 | J Appl Electrochem | HCAPLUS |
| Paramasivam, M | 2001 | 31 | 115 | J Appl Electrochem | HCAPLUS |
| Sarangapani, K | 1984 | 14 | 475 | J Appl Electrochem | HCAPLUS |
| Sarangapani, K | 1985 | 26 | 67 | Surf Technol | HCAPLUS |
| Sheik Mideen, A | 1993 | 31 | 47 | Ind J Tech | |
| Sheik Mideen, A | 1988 | 27 | 235 | J Power Sources | |
| Sundararajan, J | 1961 | 17 | 35t | Corrosion | |

L63 ANSWER 8 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:77115 HCAPLUS

DN 138:125005

TI Metal-cored bipolar separator and end plates for polymer electrolyte membrane electrochemical and fuel cells

IN Davis, Herbert John

PA Avantcell Technologies Inc., Can.

SO PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|-----------------|--------------|
| PI | WO 2003009408 | A1 | 20030130 | WO 2002-CA1110 | 20020717 <-- |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| | US 2003027028 | A1 | 20030206 | US 2001-906715 | 20010718 <-- |
| PRAI | US 2001-906715 | A | 20010718 | <-- | |
| AB | Methods of treating the surface of metals, such as aluminum, so that they can withstand the corrosive conditions in polymer electrolyte membrane, including those types known as proton exchange membrane, fuel cells and similar electrochem. environments and still maintain a high level of elec. and thermal conductivity over extended periods of time, are disclosed. A conductive polymer outer layer used in combination with an intermediate layer between the conductive polymer and a core metal, that comprises a thin layer of silver, or other noble metal, at the interface between the conductive polymer and an underlying metal layer, are compatible with the requirements of PEM fuel cells. Such treated metals can be formed into bipolar plates or end plates after receiving the coatings, or the conductive polymer layer can be applied or shaped into specifically required forms, alternatively the core metal can be previously formed into the required phys. form and then treated on its surfaces so as to realize the benefits of this invention. | | | | |
| IT | 11146-15-9 | | | | |
| | RL: DEV (Device component use); USES (Uses) (metal-cored bipolar separator and end plates for polymer electrolyte membrane electrochem. and fuel cells) | | | | |
| RN | 11146-15-9 HCAPLUS | | | | |
| CN | Aluminum alloy, base, Al 97-98, Mn 1.0-1.5, Fe 0-0.7, Si 0-0.6, Cu | | | | |

0.05-0.20,Zn 0-0.10 (AA 3003) (9CI) (CA INDEX NAME)

| Component | Component Percent | | Component Registry Number |
|-----------|-------------------|--------|---------------------------|
| Al | 97 | - 99 | 7429-90-5 |
| Mn | 1.0 | - 1.5 | 7439-96-5 |
| Fe | 0 | - 0.7 | 7439-89-6 |
| Si | 0 | - 0.6 | 7440-21-3 |
| Cu | 0.05 | - 0.20 | 7440-50-8 |
| Zn | 0 | - 0.10 | 7440-66-6 |

RETABLE

| Referenced Author (RAU) | Year (RPY) | VOL (RVL) | PG (RPG) | Referenced Work (RWK) | Referenced File |
|----------------------------|---------------|--------------|-------------|--------------------------|--------------------|
| Aisin Takaoka Ltd | 2000 | | | DE 19946695 A | HCAPLUS |
| Allied Signal Inc | 2001 | | | WO 0128019 A | HCAPLUS |
| Bondface Technology Inc | 2001 | | | GB 2359186 A | HCAPLUS |
| Gen Motors Corp | 1997 | | | EP 0780916 A | HCAPLUS |
| Gen Motors Corp | 2000 | | | EP 1009051 A | HCAPLUS |
| Gen Motors Corp | 2001 | | | EP 1107340 A | HCAPLUS |
| Toyota Motor Co Ltd | 1999 | | | EP 0955686 A | HCAPLUS |

L63 ANSWER 9 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:892798 HCAPLUS

DN 138:125725

TI Wear behavior of metallic and ceramic materials under electric sliding contact

AU Matsuyama, S.; Akakabe, T.; Ohba, H.

CS Toyo Electric MFG. Co. Ltd., Yokohama, 236-0004, Japan

SO International Journal of Applied Mechanics and Engineering (2002), 7(Spec. Issue), 389-395
CODEN: IJAMAJ

PB University of Zielona Gora

DT Journal

LA English

AB To obtain lighter materials for elec. train **current collectors**, simple screening tests have been performed using various materials in comparison with actual sliders. As a result, titanium carbide composite with flaky graphite and aluminum alloy matrix composite reinforced with Al₂O₃ fibers were selected as candidates. Both materials exhibit good wear resistance under conditions without **current**. However, when **current** is supplied, the wear loss tends to increase due to transference of copper from trolley for the former and due to forming of fused alloying layer with copper, especially in rainy condition, for the latter.

IT 12616-75-0, Aa6061

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(composites with silicon carbide, **current collector**;
wear behavior of metal-matrix and ceramic-matrix composites under elec. sliding contact)

RN 12616-75-0 HCAPLUS

CN Aluminum alloy, base, Al 96-99, Mg 0.8-1.2, Si 0.40-0.8, Fe 0-0.7, Cu 0.15-0.40, Cr 0.04-0.35, Zn 0-0.25, Mn 0-0.15, Ti 0-0.15 (AA 6061) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
|-----------|-------------------|---------------------------|

| | | | | |
|----|------|---|------|-----------|
| Al | 96 | - | 99 | 7429-90-5 |
| Mg | 0.8 | - | 1.2 | 7439-95-4 |
| Si | 0.40 | - | 0.8 | 7440-21-3 |
| Fe | 0 | - | 0.7 | 7439-89-6 |
| Cu | 0.15 | - | 0.40 | 7440-50-8 |
| Cr | 0.04 | - | 0.35 | 7440-47-3 |
| Zn | 0 | - | 0.25 | 7440-66-6 |
| Mn | 0 | - | 0.15 | 7439-96-5 |
| Ti | 0 | - | 0.15 | 7440-32-6 |

RETABLE

| Referenced Author (RAU) | Year (RPY) | VOL (RVL) | PG (RPG) | Referenced Work (RWK) | Referenced File |
|----------------------------|---------------|--------------|-------------|--------------------------|--------------------|
| Endo, H | 1988 | 6 | 301 | FC Reports | |
| Matsuyama, S | 1996 | 41 | 679 | Jap J of Tribology | |
| Ono, T | 1992 | 11 | 57 | Materials System | |

L63 ANSWER 10 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1999:298514 HCAPLUS

DN 130:327888

TI Manufacture of aluminum (alloy) sheet for square case

IN Noda, Kenji; Matsui, Kuniaki; Yoshizawa, Shigenori

PA Kobe Steel, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|--------------|
| PI | JP 11124659 | A2 | 19990511 | JP 1997-287420 | 19971020 <-- |
| PRAI | JP 1997-287420 | | 19971020 | <-- | |

AB The manufacture involves cold rolling at draft 20-50%. The Al (alloy) sheet is useful for square cases for **batteries**, for example. Deformation of the case can be suppressed.

IT 11146-15-9, A3003

RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(cold rolling for manufacture of aluminum alloy sheet useful for square **battery** cases)

RN 11146-15-9 HCAPLUS

CN Aluminum alloy, base, Al 97-98, Mn 1.0-1.5, Fe 0-0.7, Si 0-0.6, Cu 0.05-0.20, Zn 0-0.10 (AA 3003) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 97 - 99 | 7429-90-5 |
| Mn | 1.0 - 1.5 | 7439-96-5 |
| Fe | 0 - 0.7 | 7439-89-6 |
| Si | 0 - 0.6 | 7440-21-3 |
| Cu | 0.05 - 0.20 | 7440-50-8 |
| Zn | 0 - 0.10 | 7440-66-6 |

L63 ANSWER 11 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1999:182759 HCAPLUS

DN 130:254898

TI Sealing structure of sealed type **battery** and method for producing the sealing structure

IN Yamamoto, Keisuke

PA Mitsubishi Cable Industries, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|--------------|-----------------|--------------|
| PI | JP 11073931 | A2 | 19990316 | JP 1997-232914 | 19970828 <-- |
| PRAI | JP 1997-232914 | | 19970828 <-- | | |

AB This sealing structure is for a **battery** container and a **battery** cover made of an Al alloy and comprises a welding aid member made of Al or an Al alloy. The structure production method include a process of installing the welding aid member in the contact parts of the container and the cover and thermally joining the member to the contact parts. The container and the cover are air-tightly joined.

IT 12616-83-0, A5052

RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(container and cover made of; sealing structure of container and cover of sealed **primary battery**)

RN 12616-83-0 HCAPLUS

CN Aluminum alloy, base, Al 96-98, Mg 2.2-2.8, Fe 0-0.40, Cr 0.15-0.35, Si 0-0.25, Cu 0-0.10, Mn 0-0.10, Zn 0-0.10 (AA 5052) (9CI) (CA INDEX NAME)

| Component | Component Percent | | Component Registry Number |
|-----------|-------------------|--------|---------------------------|
| Al | 97 | - 98 | 7429-90-5 |
| Mg | 2.2 | - 2.8 | 7439-95-4 |
| Fe | 0 | - 0.40 | 7439-89-6 |
| Cr | 0.15 | - 0.35 | 7440-47-3 |
| Si | 0 | - 0.25 | 7440-21-3 |
| Cu | 0 | - 0.10 | 7440-50-8 |
| Mn | 0 | - 0.10 | 7439-96-5 |
| Zn | 0 | - 0.10 | 7440-66-6 |

L63 ANSWER 12 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1999:171647 HCAPLUS

DN 130:243565

TI Corrosion of lithium-ion **battery current collectors**

AU Braithwaite, Jeffrey W.; Gonzales, Angelo; Nagasubramanian, Ganesan; Lucero, Samuel J.; Peebles, Diane E.; Ohlhausen, James A.; Cieslak, Wendy R.

CS Sandia National Laboratories, Albuquerque, NM, 87185-0340, USA

SO Journal of the Electrochemical Society (1999), 146(2), 448-456

CODEN: JESOAN; ISSN: 0013-4651

PB Electrochemical Society

DT Journal

LA English

AB The primary **current-collector** materials being used in lithium-ion cells are susceptible to environmental degradation: aluminum to pitting corrosion and copper to environmentally assisted cracking. Localized corrosion occurred on bare aluminum electrodes during simulated ambient-temperature cycling in an excess of electrolyte. The highly oxidizing

potential associated with the pos.-electrode charge condition was the primary factor. The corrosion mechanism differed from the pitting typically observed in aqueous electrolytes because each site was filled with a mixed metal/metal-oxide product, forming surface mounds or nodules.

Electrochem. impedance spectroscopy was shown to be an effective anal. tool for characterizing the corrosion behavior of aluminum under these conditions. Based on XPS analyses, little difference existed in the composition of the surface film on aluminum and copper after immersion or cycling in LiPF₆ electrolytes made with two different solvent formulations. Although Li and P were the predominant adsorbed surface species, the corrosion resistance of aluminum may simply be due to its native oxide. Finally, copper was shown to be susceptible to environmental cracking at or near the lithium potential when specific metallurgical conditions existed (work hardening and large grain size).

IT 37268-38-5, AA 1145

RL: DEV (Device component use); PRP (Properties); USES (Uses)
(corrosion in LiPF₆ electrolyte)

RN 37268-38-5 HCAPLUS

CN Aluminum alloy, base, Al 99.45-100, Fe 0-0.55, Si 0-0.55, Cu 0-0.05, Mg 0-0.05, Mn 0-0.05, Zn 0-0.05, Ti 0-0.03 (AA 1145) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 99.45 - 100 | 7429-90-5 |
| Fe | 0 - 0.55 | 7439-89-6 |
| Si | 0 - 0.55 | 7440-21-3 |
| Cu | 0 - 0.05 | 7440-50-8 |
| Mg | 0 - 0.05 | 7439-95-4 |
| Mn | 0 - 0.05 | 7439-96-5 |
| Zn | 0 - 0.05 | 7440-66-6 |
| Ti | 0 - 0.03 | 7440-32-6 |

RETABLE

| Referenced Author (RAU) | Year (RPY) | VOL (RVL) | PG (RPG) | Referenced Work (RWK) | Referenced File |
|----------------------------|---------------|--------------|-------------|--------------------------|--------------------|
| Attewell, A | 1982 | | | Metallurgical Examin | |
| Braithwaite, J | 1997 | | | | HCAPLUS |
| Buchheit, R | 1998 | 54 | 61 | Corrosion | HCAPLUS |
| Ebner, W | 1980 | PV 80 | 265 | Power Sources | |
| Moulder, J | 1992 | | | Handbook of X-Ray Ph | |
| Quinn, R | 1982 | | 229 | 24th National SAMPE | HCAPLUS |
| Scully, R | 1995 | 138 | 2229 | J Electrochem Soc | |
| Shifler, D | 1995 | 40 | 897 | Electrochim Acta | HCAPLUS |
| Wagner, C | 1979 | | | Handbook of X-Ray Ph | |

L63 ANSWER 13 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1999:162146 HCAPLUS

DN 130:185789

TI Joining of aluminum **battery** case and lid

IN Tanaka, Katsumi; Jogan, Shigetoshi; Morita, Teruki

PA Showa Aluminium Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|-------|-----------------|-------|
| ----- | ---- | ----- | ----- | ----- |

PI JP 11067161 A2 19990309 JP 1997-227116 19970808 <--
 PRAI JP 1997-227116 19970808 <--

AB An Al **battery** case is joined to an Al lid with a locally applied braze. A packing or an inner seal is inserted into a fitting groove formed in the lid body. Good dimensional accuracy and hermeticity are obtained without heating the whole **battery** case to a high temperature

IT 11146-15-9, Aa3003

RL: DEV (Device component use); USES (Uses)
 (packing in joining of aluminum **battery** case and lid by brazing)

RN 11146-15-9 HCAPLUS

CN Aluminum alloy, base, Al 97-98, Mn 1.0-1.5, Fe 0-0.7, Si 0-0.6, Cu 0.05-0.20, Zn 0-0.10 (AA 3003) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 97 - 99 | 7429-90-5 |
| Mn | 1.0 - 1.5 | 7439-96-5 |
| Fe | 0 - 0.7 | 7439-89-6 |
| Si | 0 - 0.6 | 7440-21-3 |
| Cu | 0.05 - 0.20 | 7440-50-8 |
| Zn | 0 - 0.10 | 7440-66-6 |

L63 ANSWER 14 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1998:432380 HCAPLUS

DN 129:151067

TI Studies on aluminum and its alloy as galvanic anodes in alkaline zincate solution

AU Paramasivam, M.; Iyer, S. Venkatakrishna

CS Central Electrochemical Research Institute, Karaikudi, 630 006, India

SO Corrosion and Its Control, Proceedings of International Conference on Corrosion, Mumbai, Dec. 3-6, 1997 (1998), Meeting Date 1997, Volume 2, 974-983. Editor(s): Khanna, A. S.; Totlani, M. K.; Singh, S. K. Publisher: Elsevier, Amsterdam, Neth.

CODEN: 66JLAQ

DT Conference

LA English

AB Aluminum has received much attention as a possible galvanic anode in **primary** alkaline **batteries**, since it has attractive properties such as high energy d. (2500 Ah kg⁻¹), high neg. potential in alkaline media and abundance. But it has drawbacks like high rate of self corrosion, and gassing. Self corrosion of aluminum can be reduced by incorporating inhibitors, complexing agents and addition agents in the electrolyte. Another method is to alloy aluminum with elements such as zinc, indium, gallium, thallium and lead which has yielded a number of successful alloy compns. in alkaline media. Since the corrosion rate of zinc is very low in a highly alkaline solution, the corrosion of aluminum can be reduced by modifying its surface with zinc, by forming a suitable conversion coating over its surface. A suitable zincate coating has been found to be very useful in reducing the self corrosion of different grades of aluminum to a negligible level of 0.04-0.08 mg. cm⁻²mm⁻¹; while yielding high anode efficiency in alkaline media. In the present study an alkaline zincate coating has been formed on the binary and ternary alloys of 26S and 57S aluminum and the electrochem. behavior of these alloys in alkaline zincate solution has been studied using different techniques such as weight

loss measurements, galvanostatic polarization studies, anode efficiency

measurement, impedance measurements and hydrogen permeation studies. It is found that ternary alloys of both 26S and 57S aluminum containing zinc and indium can serve as good galvanic anodes in alkaline media.

IT 12616-83-0, 57S

RL: DEV (Device component use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(aluminum and its alloy as galvanic anodes in alkaline zincate solution)

RN 12616-83-0 HCAPLUS

CN Aluminum alloy, base, Al 96-98, Mg 2.2-2.8, Fe 0-0.40, Cr 0.15-0.35, Si 0-0.25, Cu 0-0.10, Mn 0-0.10, Zn 0-0.10 (AA 5052) (9CI) (CA INDEX NAME)

| Component | Component Percent | | Component Registry Number |
|-----------|-------------------|--------|---------------------------|
| Al | 97 | - 98 | 7429-90-5 |
| Mg | 2.2 | - 2.8 | 7439-95-4 |
| Fe | 0 | - 0.40 | 7439-89-6 |
| Cr | 0.15 | - 0.35 | 7440-47-3 |
| Si | 0 | - 0.25 | 7440-21-3 |
| Cu | 0 | - 0.10 | 7440-50-8 |
| Mn | 0 | - 0.10 | 7439-96-5 |
| Zn | 0 | - 0.10 | 7440-66-6 |

RETABLE

| Referenced Author (RAU) | Year (RPY) | VOL (RVL) | PG (RPG) | Referenced Work (RWK) | Referenced File |
|----------------------------|---------------|--------------|-------------|--------------------------------|--------------------|
| Bharathi, S | 1989 | 5 | 33 | Bulletin of Electrochem | HCAPLUS |
| Kapali, V | 1969 | 14 | 303 | British Corrosion Jo | |
| Muralidharan, S | 1995 | 142 | 1478 | Journal of Electrochem | HCAPLUS |
| Paramasivam, M | 1994 | 29 | 207 | British Corrosion Jo | HCAPLUS |
| Paramasivam, M | 1991 | 21 | 452 | Journal of Applied Electrochem | HCAPLUS |
| Sarangapani, K | 1984 | 14 | 475 | Journal of Applied Electrochem | HCAPLUS |
| Sarangapani, K | 1985 | 26 | 67 | Surface Technology | HCAPLUS |
| Sarangapani, K | 1987 | 22 | 1 | Transactions of SAE | |
| Sheik, M | 1993 | 31 | 47 | Indian Journal of Technology | |
| Sheik, M | 1989 | 27 | 235 | Journal of Power Sources | |
| Subramanyan, N | 1969 | 4 | 32 | British Corrosion Jo | HCAPLUS |
| Zaromb, S | 1967 | | | Proc Symposium on "P | |

L63 ANSWER 15 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1994:515245 HCAPLUS

DN 121:115245

TI Extruded aluminum alloy sections for supports of sliding **current collectors** of pantographs

IN Sugiyama, Noboru; Okaniwa, Shigeru; Yoshida, Koichi; Kusano, Takuo

PA Nippon Light Metal Co, Japan; Nikkei Giken Kk

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|--------------|
| PI | JP 06054405 | A2 | 19940225 | JP 1992-220990 | 19920729 <-- |
| PRAI | JP 1992-220990 | | 19920729 | <-- | |

AB The extruded sections are manufactured from Al alloy containing Mg 0.6-1.2, Si 0.4-1.3, Cu 0.05-0.4, and addnl. Cr 0.05-0.15, Mn 0.05-0.5, and/or Zr 0.05-0.15%. The Al alloy sections have high resistance to deformation, and show stable elec. behavior.

IT 155534-31-9
 RL: USES (Uses)
 (extruded sections, high-strength, for supports of sliding
current collectors of pantographs)
 RN 155534-31-9 HCAPLUS
 CN Aluminum alloy, base, Al 97,Mg 1,Si 1,Mn 0.3,Cu 0.2,Cr 0.1 (9CI) (CA
 INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 97 | 7429-90-5 |
| Mg | 1 | 7439-95-4 |
| Si | 1 | 7440-21-3 |
| Mn | 0.3 | 7439-96-5 |
| Cu | 0.2 | 7440-50-8 |
| Cr | 0.1 | 7440-47-3 |

L63 ANSWER 16 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 1994:487521 HCAPLUS
 DN 121:87521
 TI Heat management in aluminum/air **batteries**: sources of heat
 AU Patnaik, R. S. M.; Ganesh, S.; Ashok, G.; Ganesan, M.; Kapali, V.
 CS Central Electrochemical Research Institute, Karaikudi, 623 006, India
 SO Journal of Power Sources (1994), 50(3), 331-42
 CODEN: JPSODZ; ISSN: 0378-7753
 DT Journal
 LA English
 AB One of the problems with the Al/air **battery** is the generation of
 heat during both idle and discharge periods. The main sources of heat
 are: (a) corrosion of the Al anode during the idle period, (b)
 inefficient, or less efficient, dissoln. of anode during discharge, (c)
 Joule heat during discharge, and (d) non-uniform mass transfer during both
 discharge and idle periods. These components of heat act in a cumulative
 way because they are all interconnected. This paper addresses the basic
 reasons for the origin of these sources of heat. Suitable and practical
 remedial measures for the effective removal of such heat in the Al/air
battery are suggested.
 IT 12616-83-0, 57S
 RL: USES (Uses)
 (anodes, corrosion and temperature rise of, **battery** heat management
 in relation to)
 RN 12616-83-0 HCAPLUS
 CN Aluminum alloy, base, Al 96-98,Mg 2.2-2.8,Fe 0-0.40,Cr 0.15-0.35,Si
 0-0.25,Cu 0-0.10,Mn 0-0.10,Zn 0-0.10 (AA 5052) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 97 - 98 | 7429-90-5 |
| Mg | 2.2 - 2.8 | 7439-95-4 |
| Fe | 0 - 0.40 | 7439-89-6 |
| Cr | 0.15 - 0.35 | 7440-47-3 |
| Si | 0 - 0.25 | 7440-21-3 |
| Cu | 0 - 0.10 | 7440-50-8 |
| Mn | 0 - 0.10 | 7439-96-5 |
| Zn | 0 - 0.10 | 7440-66-6 |

L63 ANSWER 17 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1993:217911 HCAPLUS

DN 118:217911

TI Manufacture of ceramic-dispersed aluminum alloy contact strips for electric **current collectors**

IN Taguchi, Kazuo; Ozaki, Masanori; Kodachi, Osamu; Kimijima, Kazuhiro

PA Furukawa Electric Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|--------------|
| PI | JP 04365823 | A2 | 19921217 | JP 1991-169092 | 19910614 <-- |
| PRAI | JP 1991-169092 | | 19910614 | <-- | |

AB The contact strips are manufactured by centrifugal casting of Al (or Al alloy) melt containing uniformly dispersed ceramic particles in a mold having multiple radially arranged contact strip-shaped cavities; or mixing ceramic- and Al (or Al alloy) powder, loading in metal cans for degassing and subsequent solidifying, and plastic working. The contact strips were manufactured from powdered SiC and ADC10 Al alloy.

IT 12616-75-0, AA6061

RL: USES (Uses)

(silicon carbide-dispersed, for contact strips of elec. **current collectors**)

RN 12616-75-0 HCAPLUS

CN Aluminum alloy, base, Al 96-99, Mg 0.8-1.2, Si 0.40-0.8, Fe 0-0.7, Cu 0.15-0.40, Cr 0.04-0.35, Zn 0-0.25, Mn 0-0.15, Ti 0-0.15 (AA 6061) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 96 - 99 | 7429-90-5 |
| Mg | 0.8 - 1.2 | 7439-95-4 |
| Si | 0.40 - 0.8 | 7440-21-3 |
| Fe | 0 - 0.7 | 7439-89-6 |
| Cu | 0.15 - 0.40 | 7440-50-8 |
| Cr | 0.04 - 0.35 | 7440-47-3 |
| Zn | 0 - 0.25 | 7440-66-6 |
| Mn | 0 - 0.15 | 7439-96-5 |
| Ti | 0 - 0.15 | 7440-32-6 |

L63 ANSWER 18 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1993:217910 HCAPLUS

DN 118:217910

TI Manufacture of aluminum alloy-ceramic fiber composites for contact strips of electric **current collectors**

IN Taguchi, Kazuo; Ozaki, Masanori; Kodachi, Osamu; Kimijima, Kazuhiro

PA Furukawa Electric Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|-------------|------|----------|-----------------|--------------|
| PI | JP 04365824 | A2 | 19921217 | JP 1991-167374 | 19910613 <-- |

PRAI JP 1991-167374

19910613 <--

AB The contact strips are manufactured by (1) infiltrating preforms from ceramics fibers (or whiskers) with molten Al (or Al alloy) under applied pressure, and plastic working; (2) placing the preforms in molds having multiple radially arranged contact strip-shaped cavities, and centrifugal casting with molten Al (or Al alloy); (3) casting a melt of Al or Al alloy containing uniformly dispersed ceramic fibers (or whiskers), and plastic working; (4) casting the melt in molds having contact strip-shaped cavities; or (5) mixing ceramic fibers (or whiskers) and Al (or Al alloy) powder, loading in metal cans for degassing and subsequent solidifying, and plastic working.

IT 12616-75-0, AA6061

RL: USES (Uses)

(composites, with ceramics fibers, for contact strips of elec.
current collectors)

RN 12616-75-0 HCAPLUS

CN Aluminum alloy, base, Al 96-99, Mg 0.8-1.2, Si 0.40-0.8, Fe 0-0.7, Cu 0.15-0.40, Cr 0.04-0.35, Zn 0-0.25, Mn 0-0.15, Ti 0-0.15 (AA 6061) (9CI) (CA INDEX NAME)

| Component | Component Percent | | Component Registry Number |
|-------------------|-------------------|--------|---------------------------|
| =====+=====+===== | | | |
| Al | 96 | - 99 | 7429-90-5 |
| Mg | 0.8 | - 1.2 | 7439-95-4 |
| Si | 0.40 | - 0.8 | 7440-21-3 |
| Fe | 0 | - 0.7 | 7439-89-6 |
| Cu | 0.15 | - 0.40 | 7440-50-8 |
| Cr | 0.04 | - 0.35 | 7440-47-3 |
| Zn | 0 | - 0.25 | 7440-66-6 |
| Mn | 0 | - 0.15 | 7439-96-5 |
| Ti | 0 | - 0.15 | 7440-32-6 |

L63 ANSWER 19 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1993:9323 HCAPLUS

DN 118:9323

TI The lithium/bromine trifluoride electrochemical system: an investigation of the factors influencing practical cell designs

AU Pyszczyk, Michael F.; Frysz, Christine A.; Ebel, Steven J.

CS Wilson Greantbatch Ltd., Clarence, NY, 14031, USA

SO Journal of the Electrochemical Society (1992), 139(11), 3085-90

CODEN: JESOAN; ISSN: 0013-4651

DT Journal

LA English

AB The practical aspects of developing a Li/BrF₃ battery have been studied. Efforts toward identifying materials for internal cell components via electrochem. testing techniques have resulted in a list of materials suitable for this application. Prototype cells utilizing a spirally wound electrode configuration have been constructed and discharged. Through the use of currently available technol., however, the Li/BrF₃ couple has not delivered energy d. comparable to that by other high energy d. systems.

IT 37268-38-5

RL: USES (Uses)

(compatibility of, for use in lithium/bromine trifluoride
battery)

RN 37268-38-5 HCAPLUS

CN Aluminum alloy, base, Al 99.45-100, Fe 0-0.55, Si 0-0.55, Cu 0-0.05, Mg 0-0.05, Mn 0-0.05, Zn 0-0.05, Ti 0-0.03 (AA 1145) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 99.45 - 100 | 7429-90-5 |
| Fe | 0 - 0.55 | 7439-89-6 |
| Si | 0 - 0.55 | 7440-21-3 |
| Cu | 0 - 0.05 | 7440-50-8 |
| Mg | 0 - 0.05 | 7439-95-4 |
| Mn | 0 - 0.05 | 7439-96-5 |
| Zn | 0 - 0.05 | 7440-66-6 |
| Ti | 0 - 0.03 | 7440-32-6 |

L63 ANSWER 20 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1986:431808 HCAPLUS

DN 105:31808

TI Candidate materials for the sulfur electrode **current collector-III**. Aluminum/silicon carbide composite materials

AU Tischer, R. P.; Winterbottom, W. L.; Wroblowa, H. S.

CS Ford Motor Co., Dearborn, MI, 48121, USA

SO Corrosion Science (1986), 26(5), 377-88

CODEN: CRRSAA; ISSN: 0010-938X

DT Journal

LA English

AB It was previously found that Al and some of its alloys can be used as component materials in high temperature Na-S **batteries**. A study was made of the electrochem. behavior of composite Al/SiC materials in the polysulfide/sulfur m. 350°. Some of the composites studies were found suitable to serve as the material, coating or lining of the pos. **current collector** in Na-S cells.

IT 12616-75-0

RL: PRP (Properties)

(composites with silicon carbide, pos. **current collector** for sodium/sulfur **batteries**)

RN 12616-75-0 HCAPLUS

CN Aluminum alloy, base, Al 96-99, Mg 0.8-1.2, Si 0.40-0.8, Fe 0-0.7, Cu 0.15-0.40, Cr 0.04-0.35, Zn 0-0.25, Mn 0-0.15, Ti 0-0.15 (AA 6061) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 96 - 99 | 7429-90-5 |
| Mg | 0.8 - 1.2 | 7439-95-4 |
| Si | 0.40 - 0.8 | 7440-21-3 |
| Fe | 0 - 0.7 | 7439-89-6 |
| Cu | 0.15 - 0.40 | 7440-50-8 |
| Cr | 0.04 - 0.35 | 7440-47-3 |
| Zn | 0 - 0.25 | 7440-66-6 |
| Mn | 0 - 0.15 | 7439-96-5 |
| Ti | 0 - 0.15 | 7440-32-6 |

L63 ANSWER 21 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1986:431807 HCAPLUS

DN 105:31807

TI Candidate materials for the sulfur electrode **current collector-II**. Aluminum and its alloys

AU Tischer, R. P.; Wroblowa, H. S.

CS Ford Motor Co., Dearborn, MI, 48121, USA
 SO Corrosion Science (1986), 26(5), 371-5
 CODEN: CRRSAA; ISSN: 0010-938X
 DT Journal
 LA English
 AB In the continuing search for materials for the pos. **current collector**/container of the high-temperature Na-S **battery**, the electrochem. behavior of Al alloys in polysulfide/S melts was examined. Electrochem. evidence coupled with SEM surface examination and chemical anal. of the melt showed that Al materials studied remain passive within the 1.25-4.5 V potential range (Na/Na⁺ ref). The existence of the transpassive region currently reported in the literature was not confirmed. Interpretation of the nature of the observed residual **currents** is suggested. The alloys studied can be used as self-healing substrates of conductive coatings or as matrices of composite materials in contact with the polysulfide/S melts.
 IT 12616-75-0
 RL: PRP (Properties)
 (anodes, in sodium/sulfur **batteries**)
 RN 12616-75-0 HCAPLUS
 CN Aluminum alloy, base, Al 96-99, Mg 0.8-1.2, Si 0.40-0.8, Fe 0-0.7, Cu 0.15-0.40, Cr 0.04-0.35, Zn 0-0.25, Mn 0-0.15, Ti 0-0.15 (AA 6061) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 96 - 99 | 7429-90-5 |
| Mg | 0.8 - 1.2 | 7439-95-4 |
| Si | 0.40 - 0.8 | 7440-21-3 |
| Fe | 0 - 0.7 | 7439-89-6 |
| Cu | 0.15 - 0.40 | 7440-50-8 |
| Cr | 0.04 - 0.35 | 7440-47-3 |
| Zn | 0 - 0.25 | 7440-66-6 |
| Mn | 0 - 0.15 | 7439-96-5 |
| Ti | 0 - 0.15 | 7440-32-6 |

L63 ANSWER 22 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 1981:201933 HCAPLUS
 DN 94:201933
 TI Properties of lithium hexafluoroarsenate
 AU Cannon, Raybon C.; Stone, Charles C.; Wiesboeck, Robert A.
 CS Atlanta Tech. Cent., Decatur, GA, 30033, USA
 SO Proceedings - Electrochemical Society (1980), 80-4(Proc. Symp. Power Sources biomed. Implantable Appl. Ambient Temp. Lithium Batteries, 1979), 321-31
 CODEN: PESODO; ISSN: 0161-6374
 DT Journal
 LA English
 AB Properties of electrochem.-grade LiAsF₆ produced by the USS Agri-Chemical process are discussed. LiAsF₆ is commonly used to prepare nonaq. electrolyte solns. for use in Li **batteries**. This salt is a desirable electrolyte material because of its unique stability, high solubility, and high conductivity in a number of organic solvents. The phys. and chemical properties are discussed of LiAsF₆, including its purity, solubility in several solvents, thermal and chemical stability, and hygroscopicity. Results of oral and dermal toxicity studies are also included.

IT 12616-75-0
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (corrosion of, by aqueous lithium hexafluoroarsenate solution)
 RN 12616-75-0 HCAPLUS
 CN Aluminum alloy, base, Al 96-99, Mg 0.8-1.2, Si 0.40-0.8, Fe 0-0.7, Cu
 0.15-0.40, Cr 0.04-0.35, Zn 0-0.25, Mn 0-0.15, Ti 0-0.15 (AA 6061) (9CI) (CA
 INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 96 - 99 | 7429-90-5 |
| Mg | 0.8 - 1.2 | 7439-95-4 |
| Si | 0.40 - 0.8 | 7440-21-3 |
| Fe | 0 - 0.7 | 7439-89-6 |
| Cu | 0.15 - 0.40 | 7440-50-8 |
| Cr | 0.04 - 0.35 | 7440-47-3 |
| Zn | 0 - 0.25 | 7440-66-6 |
| Mn | 0 - 0.15 | 7439-96-5 |
| Ti | 0 - 0.15 | 7440-32-6 |

L63 ANSWER 23 OF 23 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1975:114077 HCAPLUS

DN 82:114077

TI Magnesium anode **battery**

IN Jost, Ernest M.

PA Texas Instruments, Inc.

SO U.S., 6 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|--------------|
| PI | US 3849868 | A | 19741126 | US 1970-59858 | 19700626 <-- |
| PRAI | US 1969-846733 | A3 | 19690801 | <-- | |

AB This **battery** incorporates a sealed container or can formed of a composite metal laminate material having a layer of Mg [7439-95-4] or Mg alloy metallurgically bonded to other easily formed metal layers of the laminate material such as steel, Al, or Al alloys. The laminate material is deep drawn to form the **battery** can with the Mg layer of the laminate on the inner surface of the can to serve as the **battery** anode.

IT 12616-83-0 12720-80-8

RL: USES (Uses)

(anodes, laminated with magnesium, for carbon **batteries**)

RN 12616-83-0 HCAPLUS

CN Aluminum alloy, base, Al 96-98, Mg 2.2-2.8, Fe 0-0.40, Cr 0.15-0.35, Si
 0-0.25, Cu 0-0.10, Mn 0-0.10, Zn 0-0.10 (AA 5052) (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 97 - 98 | 7429-90-5 |
| Mg | 2.2 - 2.8 | 7439-95-4 |
| Fe | 0 - 0.40 | 7439-89-6 |
| Cr | 0.15 - 0.35 | 7440-47-3 |
| Si | 0 - 0.25 | 7440-21-3 |
| Cu | 0 - 0.10 | 7440-50-8 |

| | | | | |
|----|---|---|------|-----------|
| Mn | 0 | - | 0.10 | 7439-96-5 |
| Zn | 0 | - | 0.10 | 7440-66-6 |

RN 12720-80-8 HCAPLUS

CN Aluminum alloy, base, Al 93-96, Mg 3.5-4.5, Mn 0.20-0.7, Fe 0-0.50, Si 0-0.40, Cr 0.05-0.25, Zn 0-0.25, Ti 0-0.15, Cu 0-0.10 (AA 5086) (9CI) (CA INDEX NAME)

| Component | Component Percent | | | Component Registry Number |
|-------------------|-------------------|---|------|---------------------------|
| =====+=====+===== | | | | |
| Al | 93 | - | 96 | 7429-90-5 |
| Mg | 3.5 | - | 4.5 | 7439-95-4 |
| Mn | 0.20 | - | 0.7 | 7439-96-5 |
| Fe | 0 | - | 0.50 | 7439-89-6 |
| Si | 0 | - | 0.40 | 7440-21-3 |
| Cr | 0.05 | - | 0.25 | 7440-47-3 |
| Zn | 0 | - | 0.25 | 7440-66-6 |
| Ti | 0 | - | 0.15 | 7440-32-6 |
| Cu | 0 | - | 0.10 | 7440-50-8 |

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FILE 'REGISTRY' ENTERED AT 08:46:18 ON 25 OCT 2006
ACT CHUO719/A

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L1 (      23)SEA FILE=REGISTRY ABB=ON PLU=ON (100918-13-6/BI OR 11106-92-6
L2 (    360121)SEA FILE=REGISTRY ABB=ON PLU=ON 7429-90-5/CRN OR AL/ELS OR AL
L3 (    79338)SEA FILE=REGISTRY ABB=ON PLU=ON L2 AND (7440-47-3/CRN OR CR/E
L4 (    19508)SEA FILE=REGISTRY ABB=ON PLU=ON L3 AND (7440-50-8/CRN OR CU/E
L5 (    6001)SEA FILE=REGISTRY ABB=ON PLU=ON L4 AND (7439-95-4/CRN OR MG/E
L6 (    4312)SEA FILE=REGISTRY ABB=ON PLU=ON L5 AND (7439-96-5/CRN OR MN/E
L7 (    3742)SEA FILE=REGISTRY ABB=ON PLU=ON L6 AND (7440-21-3/CRN OR SI/E
L8 (      2)SEA FILE=REGISTRY ABB=ON PLU=ON L1 AND L7
L9 (    15)SEA FILE=REGISTRY ABB=ON PLU=ON L1 AND L2 NOT L8
L10 (     2)SEA FILE=REGISTRY ABB=ON PLU=ON L9 AND NC>=5
L11 (   3190)SEA FILE=REGISTRY ABB=ON PLU=ON L7 AND (7439-89-6/CRN OR FE/E
L12 (   1738)SEA FILE=REGISTRY ABB=ON PLU=ON L7 AND (7440-66-6/CRN OR ZN/E
L13 (   1588)SEA FILE=REGISTRY ABB=ON PLU=ON L7 AND (7440-32-6/CRN OR TI/E
L14 (    911)SEA FILE=REGISTRY ABB=ON PLU=ON L11 AND L12 AND L13
L15 (    348)SEA FILE=REGISTRY ABB=ON PLU=ON L14 AND 9/ELC.SUB
L16 (    154)SEA FILE=REGISTRY ABB=ON PLU=ON L7 AND 6/ELC.SUB
L17 (    549)SEA FILE=REGISTRY ABB=ON PLU=ON L11 AND 7/ELC.SUB
L18 (    41)SEA FILE=REGISTRY ABB=ON PLU=ON L12 AND 7/ELC.SUB
L19 (    31)SEA FILE=REGISTRY ABB=ON PLU=ON L13 AND 7/ELC.SUB
L20 (   2051)SEA FILE=REGISTRY ABB=ON PLU=ON L11 AND (L12 OR L13)
L21 (    427)SEA FILE=REGISTRY ABB=ON PLU=ON L20 AND 8/ELC.SUB
L22 (    991)SEA FILE=REGISTRY ABB=ON PLU=ON L12 AND L13
L23 (    44)SEA FILE=REGISTRY ABB=ON PLU=ON L22 AND 8/ELC.SUB
L24   1596 SEA FILE=REGISTRY ABB=ON PLU=ON (L8 OR L10 OR L15 OR L16 OR L

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L25   155 S L24 AND 6/ELC.SUB
L26   154 S L25 AND (AL AND CR AND CU AND MG AND MN AND SI)/ELS
L27    27 S L25 AND AL.MG.CU?/RC
L28    81 S L26 AND AL.MG?/RC
L29    54 S L28 NOT L27
L30    73 S L26 NOT L27-L29

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FILE 'HCAPLUS' ENTERED AT 08:53:09 ON 25 OCT 2006

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L31    21 S L27
L32    26 S L29
L33    42 S L30
L34    73 S L31-L33 AND (PY<=2003 OR PRY<=2003 OR AY<=2003)
L35     0 S L34 AND (BERKOWITZ? OR ISSAEV? OR POZIN?)/AU
L36     4 S L34 AND ELECTR?/SC,SX,CW,CT
L37     0 S L34 AND BATTERY
L38     7 S L34 AND (?ELECTROD? OR ?ANOD? OR ?CATHOD? OR ?ELECTROLYT?)
L39    70 S L34 AND P/DT
L40     5 S L39 AND US/PC,PRC,AC
L41     3 S L34 NOT L39
L42    70 S L39 AND (PD<=20031124 OR PRD<=20031124 OR AD<=20031124)
L43     9 S L36,L40
L44    61 S L42 NOT L43
L45    21 S L31 AND L31,L32
L46    28 S L43,L45

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 FILE LAST UPDATED: 23 Oct 2006 (20061023/ED)

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L46 ANSWER 1 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 2006:142227 HCAPLUS
 DN 144:335505
 TI Method for producing high-strength large elongation-percentage 6063 aluminum alloy
 IN Gan, Weiping; Chen, Tieping; Yang, Fuliang; Zhang, Weiquan; Li, Ke
 PA Central South University, Peop. Rep. China; Kingle Aluminium Technology Stock Co., Ltd.
 SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 6 pp.
 CODEN: CNXXEV
 DT Patent
 LA Chinese
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|------------------|----------|
| PI | CN 1644736 | A | 20050727 | CN 2005-10031180 | 20050121 |
| PRAI | CN 2005-10031180 | | 20050121 | | |
| AB | The title Al alloy contains (by weight percentage) Mg 0.8-0.9, Si 0.65-0.75, Cu 0.85-0.95, Mn 0.15-0.25, Cr 0-0.10, Fe 0-0.23, Zn 0-0.10, Ti 0-0.10, and Al as the balance. The title method comprises (1) smelting at 780-800° and casting at 720-740°, and (b) pressing at 360-440°, quenching in water, and aging at 180-200° for 3-6h. By using this method, the tensile strength of the Al alloy is increased to 280-300 MPa, and the elongation percentage is increased to >13%. | | | | |
| IT | 880159-47-7P RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (method for producing high-strength large elongation-percentage 6063 aluminum alloy) | | | | |
| RN | 880159-47-7 HCAPLUS | | | | |
| CN | Aluminum alloy, base, Al 97,Cu 0.9,Mg 0.9,Si 0.7,Mn 0.2,Cr 0.1 (9CI) (CA INDEX NAME) | | | | |

Component Component Component

jan delaval - 25 october 2006

| | Percent | Registry Number |
|-------------------|---------|-----------------|
| =====+=====+===== | | |
| Al | 97 | 7429-90-5 |
| Cu | 0.9 | 7440-50-8 |
| Mg | 0.9 | 7439-95-4 |
| Si | 0.7 | 7440-21-3 |
| Mn | 0.2 | 7439-96-5 |
| Cr | 0.1 | 7440-47-3 |

L46 ANSWER 2 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 2004:1014504 HCAPLUS
 DN 142:9859
 TI High strength high ductility Al-Mg-Si alloy for automobiles and railroad cars
 IN Hashimoto, Takenori
 PA Showa Denko K. K., Japan
 SO Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| | ----- | --- | ----- | ----- | ----- |
| PI | JP 2004332112 | A2 | 20041125 | JP 2004-120501 | 20040415 |
| PRAI | JP 2003-114620 | A | 20030418 | | |

AB The alloy comprises Si 0.1-0.9, Mg 0.7-1.6%, and Al bal. The alloy may further contain Cu 0.1-0.5, Cr 0.05-0.3, and/or Mn 0.05-0.3%. The average grain size of the alloy is $\geq 30 \mu\text{m}$ while the relationship between the different of maximum and min. grain size (dr) and the average grain size (da) being $\text{dr} > \text{da}/10$. The alloy can be manufactured by extruding or rolling; and the obtained alloy has a tensile strength $\leq 300 \text{ MPa}$ and an elongation of $\geq 20\%$.

IT 507278-18-4 797039-62-4 797039-64-6
 797039-66-8
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
 (high strength high ductility Al-Mg-Si alloy for automobiles and railroad cars)

RN 507278-18-4 HCAPLUS
 CN Aluminum alloy, base, Al 98, Mg 1, Si 0.6, Cu 0.3, Cr 0.1, Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------------|----------------------|------------------------------|
| =====+=====+===== | | |
| Al | 98 | 7429-90-5 |
| Mg | 1 | 7439-95-4 |
| Si | 0.6 | 7440-21-3 |
| Cu | 0.3 | 7440-50-8 |
| Cr | 0.1 | 7440-47-3 |
| Mn | 0.1 | 7439-96-5 |

RN 797039-62-4 HCAPLUS
 CN Aluminum alloy, base, Al 98, Mg 1.5, Si 0.3, Cu 0.2, Cr 0.1, Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component | Component |
|-----------|-----------|-----------|
|-----------|-----------|-----------|

| | Percent | Registry Number |
|--------|---------|-----------------|
| =====+ | =====+ | ===== |
| Al | 98 | 7429-90-5 |
| Mg | 1.5 | 7439-95-4 |
| Si | 0.3 | 7440-21-3 |
| Cu | 0.2 | 7440-50-8 |
| Cr | 0.1 | 7440-47-3 |
| Mn | 0.1 | 7439-96-5 |

RN 797039-64-6 HCAPLUS

CN Aluminum alloy, base, Al 98, Mg 1.5, Cu 0.3, Si 0.3, Cr 0.2, Mn 0.2 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| =====+ | =====+ | ===== |
| Al | 98 | 7429-90-5 |
| Mg | 1.5 | 7439-95-4 |
| Cu | 0.3 | 7440-50-8 |
| Si | 0.3 | 7440-21-3 |
| Cr | 0.2 | 7440-47-3 |
| Mn | 0.2 | 7439-96-5 |

RN 797039-66-8 HCAPLUS

CN Aluminum alloy, base, Al 96-99, Mg 0.7-1.6, Si 0.1-0.9, Cu 0-0.5, Cr 0-0.3, Mn 0-0.3 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| =====+ | =====+ | ===== |
| Al | 96 - 99 | 7429-90-5 |
| Mg | 0.7 - 1.6 | 7439-95-4 |
| Si | 0.1 - 0.9 | 7440-21-3 |
| Cu | 0 - 0.5 | 7440-50-8 |
| Cr | 0 - 0.3 | 7440-47-3 |
| Mn | 0 - 0.3 | 7439-96-5 |

L46 ANSWER 3 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:960319 HCAPLUS

DN 141:398954

TI Manufacture of aluminum alloy sheets with good bendability and surface properties for forming and working

IN Saga, Makoto; Takada, Takeshi; Muramatsu, Toshiki; Hibino, Akira; Noguchi, Osamu

PA Nippon Steel Corp., Japan; Furukawa-Sky Aluminium Corp.

SO Jpn. Kokai Tokkyo Koho, 18 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------|----------------|-------|----------|-----------------|----------|
| ----- | ----- | ----- | ----- | ----- | ----- |
| PI | JP 2004315878 | A2 | 20041111 | JP 2003-110645 | 20030415 |
| PRAI | JP 2003-110645 | | 20030415 | | |

AB Al alloy billets containing 0.3-1.0 weight% Mg, 0.5-1.5 weight% Si, 0.01-0.15 weight%

Mn and/or 0.001-0.1 weight% Cr at Mn + Cr = 0.1-0.3 weight%, and balance Al are heated to ≥ 480 to $< 580^\circ$, rolled at $350-500^\circ$ and draft $\geq 30\%$, rolled at $200-400^\circ$ and draft $\leq 70\%$, cooled,

cold-rolled at total draft $\geq 30\%$, kept at a solution-treatment temperature of ≥ 480 to $< 580^\circ$ for ≤ 5 min, cooled at a cooling rate of $\geq 2^\circ/\text{s}$ to ≥ 50 to $< 150^\circ$, and kept at ≥ 50 to $< 150^\circ$ for ≥ 2 h to give the Al alloy sheets having good bendability and surface properties. The Al alloy sheets provide formed and worked products showing good surface properties and no ridging or roughening.

IT 790235-26-6

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(manufacture of Al alloy sheets with good bendability and surface properties for forming and working)

RN 790235-26-6 HCAPLUS

CN Aluminum alloy, base, Al 96-99, Si 0.5-1.5, Mg 0.3-1, Cu 0-1, Mn 0-0.2, Cr 0-0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------------|----------------------|------------------------------|
| =====+=====+===== | | |
| Al | 96 - 99 | 7429-90-5 |
| Si | 0.5 - 1.5 | 7440-21-3 |
| Mg | 0.3 - 1 | 7439-95-4 |
| Cu | 0 - 1 | 7440-50-8 |
| Mn | 0 - 0.2 | 7439-96-5 |
| Cr | 0 - 0.1 | 7440-47-3 |

L46 ANSWER 4 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:726570 HCAPLUS

DN 142:485594

TI Effect of Cu content on intergranular corrosion of a new type Al-Mg-Si alloy

AU He, Li-zi; Chen, Yan-bo; Cui, Jian-zhong; Sun, Xiao-feng; Guan, Heng-rong; Hu, Zhuang-gi

CS Institute of Metal Research, Chinese Academy of Sciences, Shenyang, 110016, Peop. Rep. China

SO Fushi Kexue Yu Fanghu Jishu (2004), 16(3), 129-133
CODEN: FKFJED; ISSN: 1002-6495

PB Fushi Kexue Yu Fanghu Jishu Bianjibu

DT Journal

LA Chinese

AB The effect of Cu content and heat treatment condition on intergranular corrosion behavior of a new type Al-Mg-Si alloys, which is a candidate material for carrier-based aircraft, has been studied by immersion and electrochem. tests. The results of immersion test showed that the mode of corrosion changed from pitting corrosion to intergranular corrosion due to the addition of Cu into the alloy, the degree of corrosion became severe with increasing Cu content. Compared with the alloy under-aged and over-aged, the one treated according to T6 condition showed much strong susceptibility to intergranular corrosion, which was resulted from continuous distribution of ppts. along grain boundaries of the alloy at T6 status. The results of electrochem. test indicated that all the tested alloys may be passivated rapidly. The free corrosion potentials shifted to pos. and the corrosion current densities of the alloys grew with increasing Cu content. The pitting potential, the critical potential for intergranular corrosion and the free corrosion potential shifted to neg. with the increase of aging time. The pitting potential and the free corrosion potential varied with aging time parabolically, however, the critical potential for intergranular corrosion linearly.

IT 852233-98-8 852233-99-9
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (effect of Cu content on intergranular corrosion of Al-Mg-Si alloy)
 RN 852233-98-8 HCAPLUS
 CN Aluminum alloy, base, Al 97,Mg 1,Si 0.8,Cu 0.5,Mn 0.4,Cr 0.2 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 97 | 7429-90-5 |
| Mg | 1 | 7439-95-4 |
| Si | 0.8 | 7440-21-3 |
| Cu | 0.5 | 7440-50-8 |
| Mn | 0.4 | 7439-96-5 |
| Cr | 0.2 | 7440-47-3 |

RN 852233-99-9 HCAPLUS
 CN Aluminum alloy, base, Al 96,Mg 1.1,Cu 1,Si 0.8,Mn 0.4,Cr 0.2 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 96 | 7429-90-5 |
| Mg | 1.1 | 7439-95-4 |
| Cu | 1 | 7440-50-8 |
| Si | 0.8 | 7440-21-3 |
| Mn | 0.4 | 7439-96-5 |
| Cr | 0.2 | 7440-47-3 |

L46 ANSWER 5 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 2004:372375 HCAPLUS
 DN 140:378978
 TI High-strength aluminum alloys for extruded products resistant to corrosion and stress-corrosion cracking
 IN Sano, Hideo; Matsuda, Shinichi; Kita, Yasushi
 PA Japan
 SO U.S. Pat. Appl. Publ., 18 pp.
 CODEN: USXXCO
 DT **Patent**
 LA English
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---------------|------|----------|-----------------|--------------|
| PI | US 2004084119 | A1 | 20040506 | US 2003-666216 | 20030918 <-- |
| | JP 2004149907 | A2 | 20040527 | JP 2002-319453 | 20021101 <-- |
| | EP 1430965 | A2 | 20040623 | EP 2003-24720 | 20031029 <-- |
| | EP 1430965 | A3 | 20050316 | | |

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK

PRAI JP 2002-319453 A 20021101 <--

AB The high-strength Al alloys extruded for structural applications with corrosion resistance contain Si 0.5-1.5, Mg 0.9-1.6, and Cu 0.8-2.5% (with the Si, Mg, and Cu at 3-4% total), optionally with Mn 0.5-1.2, Cr 0.02-0.4, Zr 0.03-0.2, V 0.03-0.2, and/or Zn 0.03-2.0%. The preheated Al-alloy ingot is extruded at $\geq 450^\circ$ as a billet or tube having a fibrous structure in $\geq 60\%$ of the cross-sectional area.

The hot-extruded shapes are quenched to $\leq 100^\circ$, and aged for 2-24 h at 150-200°. The extruded Al-alloy products are suitable as structural parts for automobiles, railroad carriages, or aircraft.

IT 685558-52-5 685558-53-6 685558-54-7
685558-55-8 685558-56-9 685558-57-0
685558-61-6

RL: TEM (Technical or engineered material use); USES (Uses)
(extruded; high-strength Al alloys for extruded parts resistant to stress-corrosion cracking)

RN 685558-52-5 HCAPLUS

CN Aluminum alloy, base, Al 95,Cu 1.8,Mg 1.1,Si 0.9,Mn 0.6,Cr 0.2 (9CI) (CA
INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 95 | 7429-90-5 |
| Cu | 1.8 | 7440-50-8 |
| Mg | 1.1 | 7439-95-4 |
| Si | 0.9 | 7440-21-3 |
| Mn | 0.6 | 7439-96-5 |
| Cr | 0.2 | 7440-47-3 |

RN 685558-53-6 HCAPLUS

CN Aluminum alloy, base, Al 95,Cu 1.8,Mn 1.2,Mg 1.1,Si 0.9,Cr 0.2 (9CI) (CA
INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 95 | 7429-90-5 |
| Cu | 1.8 | 7440-50-8 |
| Mn | 1.2 | 7439-96-5 |
| Mg | 1.1 | 7439-95-4 |
| Si | 0.9 | 7440-21-3 |
| Cr | 0.2 | 7440-47-3 |

RN 685558-54-7 HCAPLUS

CN Aluminum alloy, base, Al 95,Cu 1.8,Si 1.2,Mg 1,Mn 0.9,Cr 0.2 (9CI) (CA
INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 95 | 7429-90-5 |
| Cu | 1.8 | 7440-50-8 |
| Si | 1.2 | 7440-21-3 |
| Mg | 1 | 7439-95-4 |
| Mn | 0.9 | 7439-96-5 |
| Cr | 0.2 | 7440-47-3 |

RN 685558-55-8 HCAPLUS

CN Aluminum alloy, base, Al 95,Cu 1.7,Mg 1.3,Mn 0.9,Si 0.8,Cr 0.2 (9CI) (CA
INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 95 | 7429-90-5 |
| Cu | 1.7 | 7440-50-8 |

| | | |
|----|-----|-----------|
| Mg | 1.3 | 7439-95-4 |
| Mn | 0.9 | 7439-96-5 |
| Si | 0.8 | 7440-21-3 |
| Cr | 0.2 | 7440-47-3 |

RN 685558-56-9 HCAPLUS

CN Aluminum alloy, base, Al 95,Cu 2,Mg 1,Mn 0.9,Si 0.8,Cr 0.2 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 95 | 7429-90-5 |
| Cu | 2 | 7440-50-8 |
| Mg | 1 | 7439-95-4 |
| Mn | 0.9 | 7439-96-5 |
| Si | 0.8 | 7440-21-3 |
| Cr | 0.2 | 7440-47-3 |

RN 685558-57-0 HCAPLUS

CN Aluminum alloy, base, Al 96,Si 1.1,Cu 1,Mg 1,Mn 1,Cr 0.2 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 96 | 7429-90-5 |
| Si | 1.1 | 7440-21-3 |
| Cu | 1 | 7440-50-8 |
| Mg | 1 | 7439-95-4 |
| Mn | 1 | 7439-96-5 |
| Cr | 0.2 | 7440-47-3 |

RN 685558-61-6 HCAPLUS

CN Aluminum alloy, base, Al 95,Cu 1.8,Mg 1.1,Mn 0.9,Si 0.9,Cr 0.2 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 95 | 7429-90-5 |
| Cu | 1.8 | 7440-50-8 |
| Mg | 1.1 | 7439-95-4 |
| Mn | 0.9 | 7439-96-5 |
| Si | 0.9 | 7440-21-3 |
| Cr | 0.2 | 7440-47-3 |

L46 ANSWER 6 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2004:180190 HCAPLUS

DN 140:221551

TI Manufacture of aluminum alloy automobile parts with good corrosion resistance

IN Kanda, Tomoyuki; Matsuda, Shinichi; Yoshida, Hideo; Fujita, Koichi; Seguchi, Takeshi; Mori, Motohide; Sakuma, Hitoshi

PA Sumitomo Light Metal Industries, Ltd., Japan; Somic Ishikawa Inc.; Toyota Motor Corp.

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | JP 2004068076 | A2 | 20040304 | JP 2002-228279 | 20020806 |
| PRAI | JP 2002-228279 | | 20020806 | | |

AB The alloy comprises Si 0.4-0.8, Mg 0.8-1.2, Cu ≤0.4, Mn 0.08-0.15, Cr 0.1-0.35%, and Al bal. On the cross section of the parts the surface layer has recrystn. microstructure while the other section (50-95% of the cross section) has subgrain structure with average grain size of ≤10 μm. The parts are manufactured from Al alloy ingot by homogenizing at 400-490°, hot extruding at 480-540°, hot forging at 480-540°, solution heat treating at 500-540°, and aging at 150-200°.

IT 666737-43-5

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(manufacture of aluminum alloy automobile parts with good corrosion resistance)

RN 666737-43-5 HCAPLUS

CN Aluminum alloy, base, Al 97-99, Mg 0.8-1.2, Si 0.4-0.8, Cr 0.1-0.4, Cu 0-0.4, Mn 0.1-0.2 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 97 - 99 | 7429-90-5 |
| Mg | 0.8 - 1.2 | 7439-95-4 |
| Si | 0.4 - 0.8 | 7440-21-3 |
| Cr | 0.1 - 0.4 | 7440-47-3 |
| Cu | 0 - 0.4 | 7440-50-8 |
| Mn | 0.1 - 0.2 | 7439-96-5 |

L46 ANSWER 7 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:975857 HCAPLUS

DN 138:59743

TI Aluminum alloy strip having good processability and hardness after baking coating and its manufacture

IN Sato, Yuichi; Mori, Yoichiro; Saga, Makoto

PA Nippon Steel Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | JP 2002371332 | A2 | 20021226 | JP 2002-42805 | 20020220 |
| PRAI | JP 2001-110750 | A | 20010410 | | |

AB The Al alloy strip comprises Mg 0.2-1.6, Si 0.4-1.8, Mn 0.03-1.5, and Cr 0.02-0.5 weight%. The strip may have lubricating polymer surface layer soluble in an alkali. The strip is manufactured by heating at 500-600° for ≥1 h after casting.

IT 479026-17-0

RL: TEM (Technical or engineered material use); USES (Uses)

(Al alloy strip having good processability and hardness after baking coating)

RN 479026-17-0 HCAPLUS

CN Aluminum alloy, base, Al 97,Mg 1,Cu 0.9,Si 0.6,Mn 0.2,Cr 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 97 | 7429-90-5 |
| Mg | 1 | 7439-95-4 |
| Cu | 0.9 | 7440-50-8 |
| Si | 0.6 | 7440-21-3 |
| Mn | 0.2 | 7439-96-5 |
| Cr | 0.1 | 7440-47-3 |

L46 ANSWER 8 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2001:777908 HCAPLUS

DN 135:321537

TI Manufacture of aluminum alloy plate with good resistance to filiform rust

IN Matsuda, Shinji; Hattori, Tsutomu; Katsukura, Makoto; Minoda, Tadashi; Yoshida, Hideo; Matsuda, Shinichi; Asano, Mineo; Furuyama, Tsutomu

PA Nissan Motor Co., Ltd., Japan; Sumitomo Light Metal Industries, Ltd.

SO Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|--------------|
| PI | JP 2001295008 | A2 | 20011026 | JP 2000-111665 | 20000413 <-- |
| | JP 3563323 | B2 | 20040908 | | |
| | US 2002005232 | A1 | 20020117 | US 2001-817765 | 20010326 <-- |
| | US 6464805 | B2 | 20021015 | | |
| PRAI | JP 2000-111665 | A | 20000413 | <-- | |

AB The alloy comprises Mg 0.25-0.6, Si 0.9-1.1, Cu 0.6-1, Mn ≤0.2 and/or Cr ≤0.1, and Al bal., where 150/μm² Q phase (Cu-Mg-Si-Al phase) particles (≥2 μm) exist in the alloy matrix. The alloy plate can be manufactured by homogenizing the alloy ingot at ≥530°, cooling to room temperature, heating at ≥500° for 30 min, cooling at 30°/h to ≤450°, hot rolling, cold rolling, and solution heat treating at ≤550° for ≤30 s. The obtained plate is suitable for automobile body.

IT 367512-95-6

RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)

(manufacture of aluminum alloy plate with good resistance to filiform rust)

RN 367512-95-6 HCAPLUS

CN Aluminum alloy, base, Al 97-98,Si 0.9-1.1,Cu 0.6-1,Mg 0.2-0.6,Mn 0-0.2,Cr 0-0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 97 - 98 | 7429-90-5 |
| Si | 0.9 - 1.1 | 7440-21-3 |
| Cu | 0.6 - 1 | 7440-50-8 |
| Mg | 0.2 - 0.6 | 7439-95-4 |
| Mn | 0 - 0.2 | 7439-96-5 |
| Cr | 0 - 0.1 | 7440-47-3 |

L46 ANSWER 9 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 2000:356938 HCAPLUS
 DN 132:351272
 TI Aluminum alloy sheet with high press formability and hemming processability
 IN Nakai, Manabu; Sakata, Mariko
 PA Kobe Steel, Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | JP 2000144294 | A2 | 20000526 | JP 1998-322382 | 19981112 |
| | JP 3802695 | B2 | 20060726 | | |
| PRAI | JP 1998-322382 | | 19981112 | | |
| AB | The Al alloy sheet contains Mg 0.2-1.6, Si 0.2-1.8, Mn 0.01-0.30, and Fe ≤0.30 weight%. The microstructure of the Al alloy sheet after solution treatment has average recrystd. grain size ≤45 μm, average diameter of Al-Fe-based and Mg ₂ Si crystals ≤5 μm, average space between the crystals ≥20 μm, average diameter of dispersion particles 0.02-0.8 μm, and the number of the particles ≥1 per 1 μm ³ . The Al alloy sheet is useful for manufacturing transport means, such as automobiles and shipping. | | | | |
| IT | 270090-87-4 RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses) (Al alloy sheet with controlled microstructure for press formability and hemming processability) | | | | |
| RN | 270090-87-4 HCAPLUS | | | | |
| CN | Aluminum alloy, base, Al 98, Mg 0.8, Cu 0.6, Si 0.5, Cr 0.2, Mn 0.1 (9CI) (CA INDEX NAME) | | | | |

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 98 | 7429-90-5 |
| Mg | 0.8 | 7439-95-4 |
| Cu | 0.6 | 7440-50-8 |
| Si | 0.5 | 7440-21-3 |
| Cr | 0.2 | 7440-47-3 |
| Mn | 0.1 | 7439-96-5 |

L46 ANSWER 10 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 1998:25185 HCAPLUS
 DN 128:105071
 TI Aluminum alloy with excellent machining properties and its production
 IN Yoshihara, Shinji; Hirano, Masakazu
 PA Kobe Steel, Ltd., Japan
 SO Ger. Offen., 8 pp.
 CODEN: GWXXBX
 DT **Patent**
 LA German
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|-------------|------|----------|------------------|--------------|
| PI | DE 19727096 | A1 | 19980102 | DE 1997-19727096 | 19970625 <-- |
| | JP 10008175 | A2 | 19980113 | JP 1996-186578 | 19960626 <-- |

JP 3301919 B2 20020715
 JP 2002206132 A2 20020726 JP 2001-361430 19960626 <--
 US 6059902 A 20000509 US 1997-880689 19970623 <--
 PRAI JP 1996-186578 A 19960626 <--
 AB The alloy contains Si 1.5-12, Mg 0.5-6, and optionally Mn 0.5-2, Cu 0.15-3, and/or Cr 0.04-0.35 weight%. The alloy contains addnl. 0.01-0.1 weight%
 Ti. The average grain size of the compds. of the Si system is 2-20 µm and their surface ratio is 2-12%. The molten alloy is cast into an ingot with dendrite arm spacing of 10-50 µm, soaked at 450-520°, and extrusion formed.
 IT 201424-45-5
 RL: TEM (Technical or engineered material use); USES (Uses)
 (with excellent machining properties and its production)
 RN 201424-45-5 HCAPLUS
 CN Aluminum alloy, base, Al 77-97, Si 1.5-12, Mg 0.5-6, Cu 0.2-3, Mn 0.5-2, Cr 0-0.4 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 77 - 97 | 7429-90-5 |
| Si | 1.5 - 12 | 7440-21-3 |
| Mg | 0.5 - 6 | 7439-95-4 |
| Cu | 0.2 - 3 | 7440-50-8 |
| Mn | 0.5 - 2 | 7439-96-5 |
| Cr | 0 - 0.4 | 7440-47-3 |

L46 ANSWER 11 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 1997:740347 HCAPLUS
 DN 128:15444
 TI Aluminum-silicon-magnesium alloy for automobile body parts
 IN Ehrstrom, Jean-Christophe; Sigli, Christophe; Pillet, Georges
 PA Pechiney Rhenalu, Fr.; Kaiser Aluminum & Chemical Corp.; Furukawa Electric Co., Ltd.; Kawasaki Steel Corporation; Ehrstrom, Jean-Christophe; Sigli, Christophe; Pillet, Georges
 SO PCT Int. Appl., 15 pp.
 CODEN: PIXXD2
 DT Patent
 LA French
 FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------|----------|-----------------|----------|
| WO 9741272 | A1 | 19971106 | WO 1997-FR755 | 19970428 |
| W: CA, MX, US | | | | |
| RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| FR 2748035 | A1 | 19971031 | FR 1996-5595 | 19960429 |
| FR 2748035 | B1 | 19980703 | | |
| EP 896637 | A1 | 19990217 | EP 1997-921897 | 19970428 |
| EP 896637 | B1 | 20000524 | | |
| EP 896637 | B2 | 20050727 | | |
| R: CH, DE, ES, GB, IT, LI | | | | |
| ES 2146467 | T3 | 20000801 | ES 1997-921897 | 19970428 |
| PRAI FR 1996-5595 | A | 19960429 | | |
| WO 1997-FR755 | W | 19970428 | | |
| AB An Al alloy is disclosed for manufacture of automobile body parts. The Al alloy contains Si 0.5-0.8, Mg 0.45-0.65, Cu 0.55-0.75, Mn and/or Cr 0.1-0.3, and (Si + Mg + Cu) 1.6-2.0%. The alloy exhibits a high mech. strength following homogenization at 500-580°, hot rolling to a | | | | |

thickness of 3-10 mm, cold rolling to a thickness of 0.8-1.5 mm, solution annealing for 20 s-2 min at 500-560°, aging 1 wk at ambient temperature, painting, and paint curing at 150-170°.

IT 199126-52-8

RL: TEM (Technical or engineered material use); USES (Uses)
(for automobile body parts)

RN 199126-52-8 HCAPLUS

CN Aluminum alloy, base, Al 97-98, Cu 0.6-0.8, Si 0.5-0.8, Mg 0.4-0.6, Cr 0-0.3, Mn 0-0.3 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------------|----------------------|------------------------------|
| =====+=====+===== | | |
| Al | 97 - 98 | 7429-90-5 |
| Cu | 0.6 - 0.8 | 7440-50-8 |
| Si | 0.5 - 0.8 | 7440-21-3 |
| Mg | 0.4 - 0.6 | 7439-95-4 |
| Cr | 0 - 0.3 | 7440-47-3 |
| Mn | 0 - 0.3 | 7439-96-5 |

L46 ANSWER 12 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1997:630681 HCAPLUS

DN 127:251684

TI Manufacture of lightweight aluminum alloy wheels having high durability and corrosion resistance

IN Furuya, Seiichi; Kitahara, Takahiro; Yanada, Shinichi; Kishi, Toshifumi

PA Sumitomo Metal Industries, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------|------|----------|-----------------|----------|
| | ----- | ---- | ----- | ----- | ----- |
| PI | JP 09248649 | A2 | 19970922 | JP 1996-87236 | 19960314 |
| | JP 3185658 | B2 | 20010711 | | |
| PRAI | JP 1996-87236 | | 19960314 | | |

AB Al alloys containing Cu 0.5-0.9, Si 0.8-1.2, Mn 0.5-0.7, Mg 0.8-1.2, and Cr 0.1-0.2% are shaped to wheels by ordinarily forging, heating, and mech. working, and the surface of wheels is work hardened by pressing with rotary balls or rollers at 20-120 bar and simultaneously compressive residual stress is imparted to the surface.

IT 195619-54-6 195619-57-9 195619-59-1
195619-61-5

RL: PEP (Physical, engineering or chemical process); PRP (Properties); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(manufacture of lightwt. automotive wheels having high durability and corrosion resistance from)

RN 195619-54-6 HCAPLUS

CN Aluminum alloy, base, Al 97, Mg 1.1, Si 1, Mn 0.6, Cu 0.5, Cr 0.2 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------------|----------------------|------------------------------|
| =====+=====+===== | | |
| Al | 97 | 7429-90-5 |
| Mg | 1.1 | 7439-95-4 |
| Si | 1 | 7440-21-3 |
| Mn | 0.6 | 7439-96-5 |

| | | |
|----|-----|-----------|
| Cu | 0.5 | 7440-50-8 |
| Cr | 0.2 | 7440-47-3 |

RN 195619-57-9 HCAPLUS

CN Aluminum alloy, base, Al 97, Mg 1.1, Si 1, Cu 0.6, Mn 0.6, Cr 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 97 | 7429-90-5 |
| Mg | 1.1 | 7439-95-4 |
| Si | 1 | 7440-21-3 |
| Cu | 0.6 | 7440-50-8 |
| Mn | 0.6 | 7439-96-5 |
| Cr | 0.1 | 7440-47-3 |

RN 195619-59-1 HCAPLUS

CN Aluminum alloy, base, Al 96, Mg 1.1, Si 1, Cu 0.8, Mn 0.6, Cr 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 96 | 7429-90-5 |
| Mg | 1.1 | 7439-95-4 |
| Si | 1 | 7440-21-3 |
| Cu | 0.8 | 7440-50-8 |
| Mn | 0.6 | 7439-96-5 |
| Cr | 0.1 | 7440-47-3 |

RN 195619-61-5 HCAPLUS

CN Aluminum alloy, base, Al 96-97, Mg 0.8-1.2, Si 0.8-1.2, Cu 0.5-0.9, Mn 0.5-0.7, Cr 0.1-0.2 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 96 - 97 | 7429-90-5 |
| Mg | 0.8 - 1.2 | 7439-95-4 |
| Si | 0.8 - 1.2 | 7440-21-3 |
| Cu | 0.5 - 0.9 | 7440-50-8 |
| Mn | 0.5 - 0.7 | 7439-96-5 |
| Cr | 0.1 - 0.2 | 7440-47-3 |

L46 ANSWER 13 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1997:85205 HCAPLUS

DN 126:93215

TI Processing of hot-worked aluminum alloy stock for improved bake hardenability

IN Shen, Tien H.

PA Kaiser Aluminum & Chemical Corporation, USA

SO PCT Int. Appl., 22 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

PI WO 9638598 A1 19961205 WO 1996-US5919 19960502 <--
 W: CA
 RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
 US 5662750 A 19970902 US 1995-452815 19950530 <--
 EP 832308 A1 19980401 EP 1996-913857 19960502 <--
 EP 832308 B1 20010801
 R: CH, DE, ES, FR, GB, LI
 ES 2162053 T3 20011216 ES 1996-913857 19960502 <--
 PRAI US 1995-452815 A 19950530 <--
 WO 1996-US5919 W 19960502 <--
 AB The AA 6000-type Al alloys (containing Si 0.40-1.50, Mg 0.20-1.50, Cu \leq 1.20, and Mn and/or Cr 0.02-0.20%) as hot-rolled sheets or hot-worked stock are processed by: (a) solution heat treatment for 2.0 s to 30 min at 900-1100° F; (b) quenching at \geq 200° F/s and holding for \geq 30 s at \leq 350° F; (c) cooling to room temperature, and holding for \leq 24 h; and (d) reheating for 2.0 min to 24 h at 150-360° F. The process is suitable for hot-rolled sheets 0.10-0.20 in. thick used in manufacture of automotive body panels finished by painting and baking.
 IT 185811-62-5
 RL: PEP (Physical, engineering or chemical process); PROC (Process) (hot-worked; heat treatment of hot-worked aluminum alloy sheet for improved bake hardenability)
 RN 185811-62-5 HCAPLUS
 CN Aluminum alloy, base, Al 95-99, Si 0.4-1.5, Mg 0.2-1.5, Cu 0-1.2, Cr 0-0.2, Mn 0-0.2 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------------|----------------------|------------------------------|
| =====+=====+===== | | |
| Al | 95 - 99 | 7429-90-5 |
| Si | 0.4 - 1.5 | 7440-21-3 |
| Mg | 0.2 - 1.5 | 7439-95-4 |
| Cu | 0 - 1.2 | 7440-50-8 |
| Cr | 0 - 0.2 | 7440-47-3 |
| Mn | 0 - 0.2 | 7439-96-5 |

L46 ANSWER 14 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1995:446676 HCAPLUS

DN 122:194485

TI Sintered aluminum-magnesium alloy parts having low density and high porosity, and their manufacture

IN Esashi, Kyoyuki

PA Nippon Haiburitsudo Tekunoroji, Japan; Sanso Kk

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| | ----- | ---- | ----- | ----- | ----- |
| PI | JP 06330215 | A2 | 19941129 | JP 1993-122613 | 19930525 |
| PRAI | JP 1993-122613 | | 19930525 | | |

AB The sintered parts are from Al-(5.6-6.5%) Mg alloy. Optional components are Mn \leq 0.8, Cr \leq 0.5, Si \leq 2.2, and Cu \leq 2.2%.

The parts are manufactured by mixing powdered starting materials and liquid-phase

sintering in a temperature range in which liquid phase and a solid phase exist together in an equilibrium state.

IT 161908-49-2P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(sintered aluminum-magnesium alloy parts having low d. and high porosity and their manufacture)

RN 161908-49-2 HCAPLUS

CN Aluminum alloy, base, Al 88-100, Mg 0.5-6.5, Cu 0-2.2, Si 0-2.2, Mn 0-0.8, Cr 0-0.5 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 88 - 100 | 7429-90-5 |
| Mg | 0.5 - 6.5 | 7439-95-4 |
| Cu | 0 - 2.2 | 7440-50-8 |
| Si | 0 - 2.2 | 7440-21-3 |
| Mn | 0 - 0.8 | 7439-96-5 |
| Cr | 0 - 0.5 | 7440-47-3 |

L46 ANSWER 15 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1994:610999 HCAPLUS

DN 121:210999

TI Metal-coated aluminum alloy wire for surfacing

IN Kudo, Kazunao

PA Sumitomo Electric Industries, Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------|------|----------|-----------------|----------|
| PI | JP 05285690 | A2 | 19931102 | JP 1992-95413 | 19920415 |
| PRAI | JP 1992-95413 | | 19920415 | | |

AB The wire has a core from an Al alloy containing Mg, Si, and Cu, and is coated with a Cu or Cu alloy containing $\leq 10\%$ Ni, Fe, Si, Ti, Cr, Mg, and/or Mn at 8-50 area % coverage. The Al alloy contains Mg 1.5-5.0, Si 1.0-5.0, and Cu 1.0- 5.0%. The metal for coating is selected from O-free Cu or Cu alloy containing O ≤ 10 , Pb ≤ 10 , and P ≤ 3 ppm; Ni or Ni alloy containing C ≤ 0.1 , Si ≤ 0.3 , Mn ≤ 0.2 , P ≤ 0.02 , and S $\leq 0.01\%$; Fe alloy containing C ≤ 0.2 , Si ≤ 0.3 , Mn ≤ 0.2 , P ≤ 0.02 , and S $\leq 0.01\%$; Ti alloy containing C ≤ 0.1 , Si ≤ 0.3 , Mn ≤ 0.2 , P 0.02, and S $\leq 0.01\%$; and Fe-Cr-Ni alloy containing Cr 10-25, Ni ≤ 10 , C ≤ 0.1 , Si ≤ 0.3 , Mn ≤ 0.2 , P ≤ 0.02 , and S $\leq 0.01\%$. The metal-coated wire is manufactured by coating a core wire ≥ 6.0 mm in diameter with a selected coating metal, drawing the coated wire at $\geq 70\%$ reduction, and annealing at 200-400° for 1 min through 24 h, optionally followed by cold drawing at reduction of area $\geq 50\%$. The metal-coated wire is used for surfacing of Al alloy parts to improve wear resistance.

IT 153564-50-2 153564-51-3 153564-52-4
153564-53-5 153564-54-6 153564-55-7
153564-56-8 153564-57-9 153564-58-0
153564-59-1 153564-60-4 153564-61-5
153564-62-6 153564-63-7 153564-64-8
153564-65-9 153564-66-0 153564-67-1
153564-69-3 153564-70-6 153564-71-7
153564-72-8 153564-73-9 153564-74-0

RL: USES (Uses)

(wire, metal-coated, for surfacing of aluminum alloy parts)

RN 153564-50-2 HCAPLUS

CN Aluminum alloy, base, Al 97,Mg 2.5,Si 0.3,Cr 0.1,Cu 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 97 | 7429-90-5 |
| Mg | 2.5 | 7439-95-4 |
| Si | 0.3 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-51-3 HCAPLUS

CN Aluminum alloy, base, Al 96,Mg 2,Si 1.5,Cr 0.1,Cu 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 96 | 7429-90-5 |
| Mg | 2 | 7439-95-4 |
| Si | 1.5 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-52-4 HCAPLUS

CN Aluminum alloy, base, Al 97,Cu 1.5,Mg 1.5,Si 0.2,Cr 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 97 | 7429-90-5 |
| Cu | 1.5 | 7440-50-8 |
| Mg | 1.5 | 7439-95-4 |
| Si | 0.2 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-53-5 HCAPLUS

CN Aluminum alloy, base, Al 96,Mg 3,Si 0.3,Cr 0.1,Cu 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 96 | 7429-90-5 |
| Mg | 3 | 7439-95-4 |
| Si | 0.3 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-54-6 HCAPLUS

CN Aluminum alloy, base, Al 97,Mg 2.3,Si 0.3,Cr 0.1,Cu 0.1,Mn 0.1 (9CI) (CA

INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------------|----------------------|------------------------------|
| =====+=====+===== | | |
| Al | 97 | 7429-90-5 |
| Mg | 2.3 | 7439-95-4 |
| Si | 0.3 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-55-7 HCAPLUS

CN Aluminum alloy, base, Al 97,Mg 2,Si 1,Cr 0.1,Cu 0.1,Mn 0.1 (9CI) (CA
INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------------|----------------------|------------------------------|
| =====+=====+===== | | |
| Al | 97 | 7429-90-5 |
| Mg | 2 | 7439-95-4 |
| Si | 1 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-56-8 HCAPLUS

CN Aluminum alloy, base, Al 96,Mg 3,Si 1,Cr 0.1,Cu 0.1,Mn 0.1 (9CI) (CA
INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------------|----------------------|------------------------------|
| =====+=====+===== | | |
| Al | 96 | 7429-90-5 |
| Mg | 3 | 7439-95-4 |
| Si | 1 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-57-9 HCAPLUS

CN Aluminum alloy, base, Al 97,Mg 2.8,Si 0.3,Cr 0.1,Cu 0.1,Mn 0.1 (9CI) (CA
INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------------|----------------------|------------------------------|
| =====+=====+===== | | |
| Al | 97 | 7429-90-5 |
| Mg | 2.8 | 7439-95-4 |
| Si | 0.3 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-58-0 HCAPLUS

CN Aluminum alloy, base, Al 95,Mg 4,Si 0.3,Cr 0.1,Cu 0.1,Mn 0.1 (9CI) (CA
INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
|-----------|----------------------|------------------------------|

| | | |
|-------------------|-----|-----------|
| =====+=====+===== | | |
| Al | 95 | 7429-90-5 |
| Mg | 4 | 7439-95-4 |
| Si | 0.3 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-59-1 HCAPLUS

CN Aluminum alloy, base, Al 95,Mg 4.8,Si 0.3,Cr 0.1,Cu 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------------|-------------------|---------------------------|
| =====+=====+===== | | |
| Al | 95 | 7429-90-5 |
| Mg | 4.8 | 7439-95-4 |
| Si | 0.3 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-60-4 HCAPLUS

CN Aluminum alloy, base, Al 95,Mg 3.5,Si 1,Cr 0.1,Cu 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------------|-------------------|---------------------------|
| =====+=====+===== | | |
| Al | 95 | 7429-90-5 |
| Mg | 3.5 | 7439-95-4 |
| Si | 1 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-61-5 HCAPLUS

CN Aluminum alloy, base, Al 94,Mg 2.4,Cu 1.5,Si 1.5,Cr 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------------|-------------------|---------------------------|
| =====+=====+===== | | |
| Al | 94 | 7429-90-5 |
| Mg | 2.4 | 7439-95-4 |
| Cu | 1.5 | 7440-50-8 |
| Si | 1.5 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-62-6 HCAPLUS

CN Aluminum alloy, base, Al 96,Mg 2,Cu 1.2,Si 0.8,Cr 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------------|-------------------|---------------------------|
| =====+=====+===== | | |
| Al | 96 | 7429-90-5 |
| Mg | 2 | 7439-95-4 |
| Cu | 1.2 | 7440-50-8 |

| | | |
|----|-----|-----------|
| Si | 0.8 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-63-7 HCAPLUS

CN Aluminum alloy, base, Al 95,Mg 3.3,Si 1,Cr 0.1,Cu 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 95 | 7429-90-5 |
| Mg | 3.3 | 7439-95-4 |
| Si | 1 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-64-8 HCAPLUS

CN Aluminum alloy, base, Al 97,Mg 2.6,Si 0.2,Cr 0.1,Cu 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 97 | 7429-90-5 |
| Mg | 2.6 | 7439-95-4 |
| Si | 0.2 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-65-9 HCAPLUS

CN Aluminum alloy, base, Al 95,Mg 4.4,Si 0.3,Cr 0.1,Cu 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 95 | 7429-90-5 |
| Mg | 4.4 | 7439-95-4 |
| Si | 0.3 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-66-0 HCAPLUS

CN Aluminum alloy, base, Al 95,Mg 3.3,Si 1.2,Cr 0.1,Cu 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 95 | 7429-90-5 |
| Mg | 3.3 | 7439-95-4 |
| Si | 1.2 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-67-1 HCAPLUS

CN Aluminum alloy, base, Al 99,Mg 0.5,Si 0.3,Cr 0.1,Cu 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 99 | 7429-90-5 |
| Mg | 0.5 | 7439-95-4 |
| Si | 0.3 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-69-3 HCAPLUS

CN Aluminum alloy, base, Al 96,Mg 3.5,Si 0.3,Cr 0.1,Cu 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 96 | 7429-90-5 |
| Mg | 3.5 | 7439-95-4 |
| Si | 0.3 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-70-6 HCAPLUS

CN Aluminum alloy, base, Al 96,Mg 3,Si 1.2,Cr 0.1,Cu 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 96 | 7429-90-5 |
| Mg | 3 | 7439-95-4 |
| Si | 1.2 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-71-7 HCAPLUS

CN Aluminum alloy, base, Al 95,Mg 4.1,Si 0.3,Cr 0.1,Cu 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 95 | 7429-90-5 |
| Mg | 4.1 | 7439-95-4 |
| Si | 0.3 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-72-8 HCAPLUS

CN Aluminum alloy, base, Al 96,Mg 2.9,Si 0.5,Cr 0.1,Cu 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 96 | 7429-90-5 |
| Mg | 2.9 | 7439-95-4 |
| Si | 0.5 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-73-9 HCAPLUS

CN Aluminum alloy, base, Al 95,Mg 4.1,Si 0.5,Cr 0.1,Cu 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 95 | 7429-90-5 |
| Mg | 4.1 | 7439-95-4 |
| Si | 0.5 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |

RN 153564-74-0 HCAPLUS

CN Aluminum alloy, base, Al 96,Mg 2.3,Si 1.3,Cr 0.1,Cu 0.1,Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 96 | 7429-90-5 |
| Mg | 2.3 | 7439-95-4 |
| Si | 1.3 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |

L46 ANSWER 16 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1994:515245 HCAPLUS

DN 121:115245

TI Extruded aluminum alloy sections for supports of sliding current collectors of pantographs

IN Sugyama, Noboru; Okaniwa, Shigeru; Yoshida, Koichi; Kusano, Takuo

PA Nippon Light Metal Co, Japan; Nikkei Giken Kk

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|--------------|
| PI | JP 06054405 | A2 | 19940225 | JP 1992-220990 | 19920729 <-- |
| PRAI | JP 1992-220990 | | 19920729 | <-- | |

AB The extruded sections are manufactured from Al alloy containing Mg 0.6-1.2, Si 0.4-1.3, Cu 0.05-0.4, and addnl. Cr 0.05-0.15, Mn 0.05-0.5, and/or Zr 0.05-0.15%. The Al alloy sections have high resistance to deformation, and show stable elec. behavior.

IT 155534-31-9

RL: USES (Uses)

(extruded sections, high-strength, for supports of sliding current collectors of pantographs)

RN 155534-31-9 HCAPLUS

CN Aluminum alloy, base, Al 97, Mg 1, Si 1, Mn 0.3, Cu 0.2, Cr 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| =====+ | =====+ | ===== |
| Al | 97 | 7429-90-5 |
| Mg | 1 | 7439-95-4 |
| Si | 1 | 7440-21-3 |
| Mn | 0.3 | 7439-96-5 |
| Cu | 0.2 | 7440-50-8 |
| Cr | 0.1 | 7440-47-3 |

L46 ANSWER 17 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1994:489418 HCAPLUS

DN 121:89418

TI Manufacture of aluminum alloy sheets for stay-on tab type can lid materials

IN Fujikawa, Seiichiro; Koyama, Katsumi; Fujii, Takahiro

PA Furukawa Aluminium, Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| | ----- | --- | ----- | ----- | ----- |
| PI | JP 05331605 | A2 | 19931214 | JP 1992-167045 | 19920602 |
| PRAI | JP 1992-167045 | | 19920602 | | |

AB Ingots of Al alloy containing Mg 4.0-4.5, Mn 0.1-0.3, Cr 0.05-0.25, Cu 0.05-0.25, and ≥ 1 of Ti 0.005-0.5 and Si 0.01-0.5% are face cut, homogenized at 450-550° for ≥ 30 min, hot rolled, immediately heated to 400-550° at $\geq 100^\circ/\text{min}$, immediately cooled to 150° at $\geq 100^\circ/\text{min}$, and cold rolled at 60-75% draft to obtain Al alloy sheets having high strength and good formability for can lid materials.

IT 154595-25-2P 154595-26-3P

RL: PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)

(sheet, with high strength and good formability, manufacture of, for stay-on can lids)

RN 154595-25-2 HCAPLUS

CN Aluminum alloy, base, Al 95, Mg 4.2, Cr 0.2, Cu 0.2, Mn 0.2, Si 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| =====+ | =====+ | ===== |
| Al | 95 | 7429-90-5 |
| Mg | 4.2 | 7439-95-4 |
| Cr | 0.2 | 7440-47-3 |
| Cu | 0.2 | 7440-50-8 |
| Mn | 0.2 | 7439-96-5 |
| Si | 0.1 | 7440-21-3 |

RN 154595-26-3 HCAPLUS
 CN Aluminum alloy, base, Al 95,Mg 4,Cr 0.2,Cu 0.2,Mn 0.1,Si 0.1 (9CI) (CA
 INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 95 | 7429-90-5 |
| Mg | 4 | 7439-95-4 |
| Cr | 0.2 | 7440-47-3 |
| Cu | 0.2 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |
| Si | 0.1 | 7440-21-3 |

L46 ANSWER 18 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 1993:565842 HCAPLUS
 DN 119:165842
 TI Aluminum alloy thin hollow parts with bendability and their preparations
 IN Tanishita, Kyohiko; Yoshida, Hideo; Tanaka, Yasuyuki
 PA Sumitomo Light Metal Industries, Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | JP 05171328 | A2 | 19930709 | JP 1991-353954 | 19911219 |
| PRAI | JP 1991-353954 | | 19911219 | | |
| AB | Al alloy ingots containing Mg 0.6-1.5, Si 0.6-1.3, Cu 0.05-0.90, Ti 0.001-0.1, B 0.0001-0.01, and Mn 0.10-0.50 and/or Cr 0.05-0.50% are homogenized for 6-10 h at 480-560°; extruded at 500-540°; immediately water-quenched while the alloys are at ≥500°; and tempered for artificial aging, to control the recrystn. structure to ≤100 μm from the surface, and to make mainly the inner part into fibrous structure. The alloys have high strength and are useful for structural members, transportation structures, etc. | | | | |
| IT | 150286-94-5 RL: USES (Uses) (hollow parts, with bendability and high strength) | | | | |
| RN | 150286-94-5 HCAPLUS | | | | |
| CN | Aluminum alloy, base, Al 97,Cu 0.8,Mg 0.8,Si 0.8,Mn 0.3,Cr 0.1 (9CI) (CA INDEX NAME) | | | | |

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 97 | 7429-90-5 |
| Cu | 0.8 | 7440-50-8 |
| Mg | 0.8 | 7439-95-4 |
| Si | 0.8 | 7440-21-3 |
| Mn | 0.3 | 7439-96-5 |
| Cr | 0.1 | 7440-47-3 |

L46 ANSWER 19 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 1993:259428 HCAPLUS
 DN 118:259428
 TI Aluminum alloys having good bake hardenability and their manufactures

IN Sasaki, Katsutoshi; Kishino, Kunihiro; Watanabe, Hajime
 PA Furukawa Aluminium, Japan
 SO Jpn. Kokai Tokkyo Koho, 7 pp.
 CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | JP 04325646 | A2 | 19921116 | JP 1991-122452 | 19910425 |
| PRAI | JP 1991-122452 | | 19910425 | | |

AB The alloys containing Cu 0.5-2.5, Mg 0.5-3.0, Si 0.5-3.0, Mn 0.10-0.40, Cr 0.20-1.0, and optionally Zr 0.001-0.5% are solution treated at $\geq 400^\circ$ and cooled at cooling rate $\geq 3^\circ/\text{s}$. The alloys have excellent formability after solution treatment. Thus, an Al alloy ingot containing Cu 0.64, Mg 0.79, Si 0.88, Mn 0.26, and Cr 0.26% was solution treated at $520^\circ + 10 \text{ s}$ and cooled at cooling rate $15^\circ/\text{s}$ had high tensile strength and corrosion resistance after bake-hardening.

IT 147928-28-7P 147928-29-8P

RL: PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)

(bake-hardenable, corrosion-resistant, low-temperature solution treatment in manufacture of, for automobile body panels)

RN 147928-28-7 HCAPLUS

CN Aluminum alloy, base, Al 96, Mg 1.7, Cu 1.4, Si 0.9, Mn 0.3, Cr 0.2 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 96 | 7429-90-5 |
| Mg | 1.7 | 7439-95-4 |
| Cu | 1.4 | 7440-50-8 |
| Si | 0.9 | 7440-21-3 |
| Mn | 0.3 | 7439-96-5 |
| Cr | 0.2 | 7440-47-3 |

RN 147928-29-8 HCAPLUS

CN Aluminum alloy, base, Al 95, Mg 2.7, Cu 1.3, Si 0.9, Mn 0.3, Cr 0.2 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 95 | 7429-90-5 |
| Mg | 2.7 | 7439-95-4 |
| Cu | 1.3 | 7440-50-8 |
| Si | 0.9 | 7440-21-3 |
| Mn | 0.3 | 7439-96-5 |
| Cr | 0.2 | 7440-47-3 |

L46 ANSWER 20 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1993:239015 HCAPLUS

DN 118:239015

TI Manufacture of aluminum alloy extrusion-formed materials having high strength

IN Tanishita, Kyohiko; Yoshida, Hideo; Tanaka, Yasuyuki

PA Sumitomo Light Metal Industries, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | JP 04341546 | A2 | 19921127 | JP 1991-114477 | 19910520 |
| | JP 07047806 | B4 | 19950524 | | |
| PRAI | JP 1991-114477 | | 19910520 | | |

AB Cast Al alloy ingot containing Mg 0.4-1.5, Si 0.4-1.3, Cu 0.05-0.90, and optionally Mn 0.05-0.50, Cr 0.05-0.30, V 0.05-0.30, and/or Zr 0.05-0.30% is homogenized at 520-560° for 6-10 h, heated to 540-560°, cooled to 460-520° (optimum extrusion temperature), extruded at 460-520°, and press quenched. The extruded Al alloy material having high resistance to stress-corrosion cracking is useful for automobiles, vehicles, and buildings. Thus, an Al alloy billet containing Mg 0.75, Si 0.85, Cu 0.75% was homogenized at 540° for 8 h, heated to 560°, cooled to 500°, extruded, press quenched, and tempered to give an extruded material having high strength and defect-free surface.

IT 147754-70-9

RL: USES (Uses)

(extrusion-formed, with resistance to stress-corrosion cracking, for automobiles and vehicles)

RN 147754-70-9 HCAPLUS

CN Aluminum alloy, base, Al 97, Cu 0.8, Mg 0.8, Si 0.8, Cr 0.1, Mn 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 97 | 7429-90-5 |
| Cu | 0.8 | 7440-50-8 |
| Mg | 0.8 | 7439-95-4 |
| Si | 0.8 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Mn | 0.1 | 7439-96-5 |

L46 ANSWER 21 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1992:9922 HCAPLUS

DN 116:9922

TI Manufacture of aluminum alloy sheets for magnetic disk substrates

IN Oda, Tatsuya; Kishino, Kunihiro; Nanbae, Motohiro; Ohara, Kinuya; Shibata, Hiroshi

PA Furukawa Aluminum Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | JP 03047656 | A2 | 19910228 | JP 1989-178287 | 19890711 |
| PRAI | JP 1989-178287 | | 19890711 | | |

AB The Al alloy sheets having good metal coatability are manufactured by casting Al alloy containing Mg 2-7, Cu 0.001-1, optionally Mn ≤0.6, Cr ≤0.3, Zr ≤0.3, and/or Ti ≤0.2 with impurities of Si ≤0.15 and Fe ≤0.15 weight% to 2-13 mm thickness. Thus, an Al alloy containing Mg 3.5, Cu 0.028, Si 0.04, and Fe 0.03% was cast to 6 mm

thick, homogenized at 450° for 8 h, rolled to 1.5 mm thick, annealed, polished, and electroless plated with Ni-P alloy. The Ni-P alloy coating had a surface roughness 0.021 µm and no surface defect.

IT 137922-52-2

RL: USES (Uses)

(sheets, casting of, for magnetic disk substrates)

RN 137922-52-2 HCAPLUS

CN Aluminum alloy, base, Al 96,Mg 3.7,Cr 0.1,Cu 0.1,Mn 0.1,Si 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------------|----------------------|------------------------------|
| =====+=====+===== | | |
| Al | 96 | 7429-90-5 |
| Mg | 3.7 | 7439-95-4 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |
| Mn | 0.1 | 7439-96-5 |
| Si | 0.1 | 7440-21-3 |

L46 ANSWER 22 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1990:557084 HCAPLUS

DN 113:157084

TI Aluminum alloy plates for wheel rims and their manufacture

IN Kanbayashi, Miki; Takabayashi, Atsuo; Takashima, Takumi; Yamamoto, Yosuke

PA Furukawa Aluminum Co., Ltd., Japan; Chuo Seiki K. K.

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| | ----- | ---- | ----- | ----- | ----- |
| PI | JP 02153038 | A2 | 19900612 | JP 1988-306003 | 19881205 |
| PRAI | JP 1988-306003 | | 19881205 | | |

AB The plates with excellent brightness and strength are manufactured from an Al alloy containing Mg 3.5-6, Mn 0.05-0.5, Cu 0.05-0.5, Si 0.05-0.4, Fe <0.15, and Cr 0.05-0.3, Zr 0.05-0.3, Ti 0.001-0.1, and/or B 0.0001-0.002% by hot rolling, optional cold rolling, heating to 340-550° at ≥1°/min, holding for 10 s-4 h, and by cooling to room temperature. The resp. tensile strength, yield strength, elongation, and reflectivity for an Al alloy plate containing Mg 3.8, Mn 0.4, Cu 0.5, Si 0.1, Cr 0.1, Ti 0.02, and Fe 0.05% prepared according to the invention were 29.5, 13.1 kg/mm², 27%, and 81% vs. 22.5, 8.5 kg/mm², 34%, and 82% for the similarly prepared Al alloy plate containing Mg 3.0, Ti 0.02, and Fe 0.05%.

IT 129827-91-4 129827-92-5 129827-94-7

RL: PROC (Process)

(rolling and heat treatment of, for automobile wheel rims)

RN 129827-91-4 HCAPLUS

CN Aluminum alloy, base, Al 95,Mg 3.8,Cu 0.5,Mn 0.4,Cr 0.1,Si 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------------|----------------------|------------------------------|
| =====+=====+===== | | |
| Al | 95 | 7429-90-5 |
| Mg | 3.8 | 7439-95-4 |
| Cu | 0.5 | 7440-50-8 |
| Mn | 0.4 | 7439-96-5 |

Cr 0.1 7440-47-3
Si 0.1 7440-21-3

RN 129827-92-5 HCAPLUS

CN Aluminum alloy, base, Al 95,Mg 4.2,Mn 0.2,Si 0.2,Cr 0.1,Cu 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 95 | 7429-90-5 |
| Mg | 4.2 | 7439-95-4 |
| Mn | 0.2 | 7439-96-5 |
| Si | 0.2 | 7440-21-3 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |

RN 129827-94-7 HCAPLUS

CN Aluminum alloy, base, Al 94,Mg 5.5,Si 0.4,Mn 0.2,Cr 0.1,Cu 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|-------------------|---------------------------|
| Al | 94 | 7429-90-5 |
| Mg | 5.5 | 7439-95-4 |
| Si | 0.4 | 7440-21-3 |
| Mn | 0.2 | 7439-96-5 |
| Cr | 0.1 | 7440-47-3 |
| Cu | 0.1 | 7440-50-8 |

L46 ANSWER 23 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1990:203362 HCAPLUS

DN 112:203362

TI Manufacture of aluminum alloy parts for electric and electronic devices

IN Muramatsu, Toshiki; Matsuo, Mamoru

PA SKY Aluminium Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|--------------|-----------------|--------------|
| PI | JP 01162754 | A2 | 19890627 | JP 1987-319980 | 19871217 <-- |
| PRAI | JP 1987-319980 | | 19871217 <-- | | |

AB The parts, especially for lead frames, connectors, or switches, are manufactured from

an Al alloy containing 0.2-3.0 Mg and 0.2-2.5% Si by solution treatment at 480-560°, quenching at $\geq 1^\circ/\text{s}$, artificial aging at 100-200°, cold rolling, artificial aging at 100-200, cold rolling, and optionally finish annealing at 100-200°. The parts had tensile strength 44.0-50.0 kg/mm², elongation 3-7%, elec. conductivity 6-12% IACS, and good bendability and solderability.

IT 126915-76-2

RL: USES (Uses)

(heat treatment and rolling of, for elec. and electronic devices)

RN 126915-76-2 HCAPLUS

CN Aluminum alloy, base, Al 96,Si 1.2,Mg 1.1,Cu 1,Mn 0.7,Cr 0.1 (9CI) (CA

INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------------|----------------------|------------------------------|
| =====+=====+===== | | |
| Al | 96 | 7429-90-5 |
| Si | 1.2 | 7440-21-3 |
| Mg | 1.1 | 7439-95-4 |
| Cu | 1 | 7440-50-8 |
| Mn | 0.7 | 7439-96-5 |
| Cr | 0.1 | 7440-47-3 |

L46 ANSWER 24 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1988:42470 HCAPLUS

DN 108:42470

TI Aluminum alloys for electric lead frames

IN Kosuge, Haruyumi; Kamio, Katsuaki; Sano, Tomoaki; Ito, Koichi; Nakajima, Nobuaki; Uzawa, Sumiyo

PA Nippon Light Metal Co., Ltd., Japan; Toshiba Corp.

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|-------|----------------|------|--------------|-----------------|--------------|
| ----- | | | | | |
| PI | JP 62096644 | A2 | 19870506 | JP 1985-236382 | 19851024 <-- |
| | JP 05080540 | B4 | 19931109 | | |
| PRAI | JP 1985-236382 | | 19851024 <-- | | |

AB The alloys contain Cu 3.0-6.5, Mg 0.02-1.7, and Si 0.02-0.5% with ≥ 1 of Mn 0.20-1.0, Cr 0.10-0.30, Zr 0.05-0.25, and/or V 0.05-0.20% added to improve the heat resistance and refines the grain size. The alloys can be manufactured at a low cost. Thus, an ingot (containing Cu 6.0,

Mn 0.30, Zr 0.15, V 0.05, and Si 0.05%) was hot-rolled into a plate 5 mm thick, solution heat treated, quenched in water, cold-rolled into a sheet 0.5 mm thick, and precipitation-hardened at 200°. The sheet held at 275° for 30 s to simulate soldering showed tensile strength 44.4 kg/mm², Vickers hardness 124, good flexibility in a bending test elec. conductivity 34.9% of IACS, and good solderability.

IT 112437-55-5

RL: USES (Uses)

(sheet, for elec. lead frames, flexibility after soldering of)

RN 112437-55-5 HCAPLUS

CN Aluminum alloy, base, Al 93, Cu 4.5, Mg 1.4, Si 0.4, Mn 0.3, Cr 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------------|----------------------|------------------------------|
| =====+=====+===== | | |
| Al | 93 | 7429-90-5 |
| Cu | 4.5 | 7440-50-8 |
| Mg | 1.4 | 7439-95-4 |
| Si | 0.4 | 7440-21-3 |
| Mn | 0.3 | 7439-96-5 |
| Cr | 0.1 | 7440-47-3 |

L46 ANSWER 25 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1988:42468 HCAPLUS
 DN 108:42468
 TI Aluminum alloys for electric lead frames
 IN Kosuge, Haruyumi; Kamio, Katsuaki; Sano, Tomoaki; Ito, Koichi; Nakajima, Nobuaki; Uzawa, Sumiyo
 PA Nippon Light Metal Co., Ltd., Japan; Toshiba Corp.
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|--------------|-----------------|--------------|
| PI | JP 62096638 | A2 | 19870506 | JP 1985-236380 | 19851024 <-- |
| | JP 05055582 | B4 | 19930817 | | |
| PRAI | JP 1985-236380 | | 19851024 <-- | | |

AB The alloys contain Mg 0.4-1.5, Si 0.4-0.8, Cu 0.02-0.5, and ≥ 1 of Mn 0.20-1.2, Cr 0.10-0.30, Zr 0.05-0.25, and V 0.05-0.20%. Addition of Mn, Cr, Zr, and/or V improves alloy heat resistance, refines grain size. The alloys can be manufactured at a low cost. Thus, Al-alloy ingot (containing Mg 1.0, Si 0.6, Cu 0.15, Mn 0.50, and Zr 0.10%) was hot-rolled into a plate 5 mm thick, cold-rolled into a sheet 1.2 mm thick, solution heat treated, quenched in water, cold rolled to 0.5 mm thickness, and precipitation-hardened at 200°. The sheet held at 275° for 30 s to simulate hard soldering showed tensile strength 32.5 kg/mm², Vickers hardness 105, good flexibility in a bending test, elec. conductivity 34.5% of IACS, and good solderability.

IT 112437-44-2
 RL: USES (Uses)
 (formability of sheet of, for elec. lead frames)

RN 112437-44-2 HCAPLUS
 CN Aluminum alloy, base, Al 98, Mg 0.5, Si 0.5, Cu 0.4, Mn 0.2, Cr 0.1 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------------|-------------------|---------------------------|
| =====+=====+===== | | |
| Al | 98 | 7429-90-5 |
| Mg | 0.5 | 7439-95-4 |
| Si | 0.5 | 7440-21-3 |
| Cu | 0.4 | 7440-50-8 |
| Mn | 0.2 | 7439-96-5 |
| Cr | 0.1 | 7440-47-3 |

L46 ANSWER 26 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 1984:143596 HCAPLUS
 DN 100:143596
 TI High-strength aluminum alloy composite with high pitting corrosion resistance
 PA Mitsubishi Aluminum Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|-------------|------|----------|-----------------|----------|
| PI | JP 58164748 | A2 | 19830929 | JP 1982-47735 | 19820325 |

JP 02019180 B4 19900427
 PRAI JP 1982-47735 19820325
 AB The Al sheet composites consist of (1) Al alloy core containing Si 0.2-0.8, Mg 0.4-1.2, and optionally ≥ 1 Cu 0.1-0.5, Mn 0.1-0.4 and Cr 0.1-0.4, (2) Al alloy cladding on 1 or both surfaces containing Mg 0.1-1.2 and Zn 0.1-1.5 weight%, and optionally (3) Al-Si brazing alloy cladding. The core of the composite has high mech. strength; the cladding, which has high pitting corrosion resistance, prevents corrosion of the core by a sacrificial anode effect. The composites are useful for heat exchangers such as automobile radiators. Thus, an Al alloy [89513-54-2] core plate 8 mm thick containing Mg 0.69 and Si 0.41 weight% with an Al alloy [89513-55-3] 1 mm thick cladding on both major surfaces and containing Mg 0.78 and Zn 0.51 weight% was hot rolled, cold rolled, annealed 3 min at 600° in a N atmospheric, air cooled, and aged 3 h at 180° to give an Al alloy composite 0.5 mm thick with a tensile strength of 23.8 kg/mm², elongation 11.2% and increased corrosion resistance in water containing Cu²⁺, Cl⁻, SO₄²⁻, and HCO₃⁻.
 IT 89513-52-0
 RL: USES (Uses)
 (composites of, clad with aluminum alloy containing zinc, for automobile radiators)
 RN 89513-52-0 HCAPLUS
 CN Aluminum alloy, base, Al 98-99, Mg 0.4-1, Si 0.2-0.6, Cu 0-0.3, Cr 0-0.2, Mn 0-0.2 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-------------------|-------------------|---------------------------|
| =====+=====+===== | | |
| Al | 98 - 99 | 7429-90-5 |
| Mg | 0.4 - 1 | 7439-95-4 |
| Si | 0.2 - 0.6 | 7440-21-3 |
| Cu | 0 - 0.3 | 7440-50-8 |
| Cr | 0 - 0.2 | 7440-47-3 |
| Mn | 0 - 0.2 | 7439-96-5 |

L46 ANSWER 27 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 1980:430516 HCAPLUS
 DN 93:30516
 TI Corrosion of aluminum and its alloys. II. Stability of aluminum alloys
 AU Elustondo, J.
 CS Spain
 SO Revista Iberoamericana de Corrosion y Proteccion (1979), 10(Sept.-Oct.), 7-17
 CODEN: RCPDQ; ISSN: 0210-6604
 DT Journal
 LA Spanish
 AB Stress corrosion was determined for Al (AA 1100), and for the Al-Cu AA2000 [74079-56-4], Al-Mn AA 3000 [74079-55-3], Al-Si AA 4000 [74079-54-2], Al-Mg AA 5000 [74079-53-1], Al-Mg₂Si AA 6000 [74079-52-0], Al-Zn AA 7000 [74079-51-9], and AA 8000 alloy series. Tension-loaded specimens were exposed to corrosion in alkaline, acid, or chloride solns. at different temps. The Al, AA 3000, AA 4000, and AA 5000 (Mg <4%) were not susceptible to corrosion at low stress. Cracks produced by corrosion at low stress were intercryst. The Al-Cu and Al-Zn alloys showed lower resistance to low-stress corrosion than the other alloys. However, the Al-Cu and Al-Zn alloys responded well to cathodic protection. Anodized Al-Cu showed lower corrosion resistance than Al. Mn had little effect on corrosion resistance. The Al-Si alloys were inert in all corrosive media.

The resistance of Al-Mg alloys against sea water and weak bases was better than that of Al. Under some conditions, the addition of 1% Zn to Al-Mg alloys increased their intergranular corrosion resistance. The presence of Cr or Mn favored the production of a yellow or golden color during anodic oxidation

IT 74079-52-0

RL: RCT (Reactant); RACT (Reactant or reagent)
(corrosion cracking of)

RN 74079-52-0 HCAPLUS

CN Aluminum alloy, base, Al 89-99, Mg 0.3-5, Si 0.3-3, Mn 0-1.2, Cu 0-1, Cr 0-0.4
(9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 89 - 99 | 7429-90-5 |
| Mg | 0.3 - 5 | 7439-95-4 |
| Si | 0.3 - 3 | 7440-21-3 |
| Mn | 0 - 1.2 | 7439-96-5 |
| Cu | 0 - 1 | 7440-50-8 |
| Cr | 0 - 0.4 | 7440-47-3 |

L46 ANSWER 28 OF 28 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1976:424699 HCAPLUS

DN 85:24699

TI Aluminum alloy of age hardening type

IN Baba, Yoshio; Kawai, Mituhiro

PA Sumitomo Light Metal Industries, Ltd., Japan

SO U.S., 4 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|-----------------|--------------|
| PI | US 3935007 | A | 19760127 | US 1974-523534 | 19741113 <-- |
| PRAI | US 1974-523534 | A | 19741113 | <-- | |
| AB | The age-hardening Al alloy [59369-66-3] contains Cu 1.4-1.8; Mg 0.5-1.0, Si 0.5-0.6, Mn 0-0.2, Cr 0-0.2 and optional minor amts. of V, Ti, and/or Zr. The alloy is suitable for deep drawing without leaving any stretcher strains. The alloys have improved strength after paint-curing baking compared to that of conventional Al alloys. The alloys are useful for cans, caps, blinds, and automobile car bodies. | | | | |

IT 59369-66-3

RL: USES (Uses)

(age hardenable, for deep drawing)

RN 59369-66-3 HCAPLUS

CN Aluminum alloy, base, Al 97, Cu 1.4-1.8, Mg 0.5-1, Si 0.5-0.6, Cr 0-0.2, Mn 0-0.2 (9CI) (CA INDEX NAME)

| Component | Component Percent | Component Registry Number |
|-----------|----------------------|------------------------------|
| Al | 97 | 7429-90-5 |
| Cu | 1.4 - 1.8 | 7440-50-8 |
| Mg | 0.5 - 1 | 7439-95-4 |
| Si | 0.5 - 0.6 | 7440-21-3 |
| Cr | 0 - 0.2 | 7440-47-3 |
| Mn | 0 - 0.2 | 7439-96-5 |

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